



CHEETAL

JOURNAL OF

The Wildlife Preservation Society of India.

TIGER & PANTHER ISSUE

Vol. 36

1997, Dehra Dun

Nos. 3-4

Panthera Pardus

Photo: A.S. Negi



NOTICE

Members and Subscribes are requested to note that ⁱⁿ view of the rising cost of paper, printing and postal charges, it has become very difficult to meet the expenses of the Society. The membership fee and subscriptions are hardly enough to cover the cost of printing four issues of 'Cheetal' in a year. There are sundry expenses also. The Executive Committee of the Wildlife Preservation Society of India in their meeting held on 21st March, 1998 have, therefore, decided to raise the Annual Membership fee/Subscription to Rs. 150/- with effect from 1-4-98. The Annual Members/Subscribers are requested to pay the annual fee/subscription at the rate of Rs. 150/- instead of Rs. 100/- hereafter.

No increase has been made in the fees of Institutional Members, Life Members and Patrons for the time being.

Annual members and subscribers are requested to note that all yearly subscription fall due on 1st of April each year. Those who have not paid their arrears so far are requested to clear the same before 30th April, 1998 so that 'Cheetal' may be sent to them regularly.

Members and subscribers are also requested that ⁱⁿ addition to annual subscriptions, they may make voluntary donations to put the Society on sound financial footing.

Honorary Secetary

OBITUARY

Rajmata Urmilla Devi of Nabha

The members of the Wildlife Preservation Society of India mark with profound grief the sad demise of reverend Rajmata Urmilla Devi of Nabha on 5-8-97. The Rajmata was Patron of the Society right from its inception and worked shoulder to shoulder with her husband, late Col. Pratap Singh Ji, Maharaja of Nabha for the welfare of the Society.

After death of late Maharaja she not only continued to associate herself with the Society but worked with renewed vigour and zeal for the betterment of the Society. She took the trouble to come all along from Delhi for attending the Annual General Meeting of the Society on 25-11-95. In view of the interest shown by her in the affairs of the Society, the A.G.M. unanimously elected her as Chief Patron of the Society.

Like her husband the Rajmata was ever ready to listen to the problems of the Society and assured all possible material and moral help to the Society. In her death the Society has lost a true wellwisher and benevolent Patron. The Society and its members pray to the Almighty for granting eternal peace to the departed soul and courage to the bereaved family in this hour of grief.

Tree Glory

The man planting tree by the wayside will enjoy bliss in heaven for as many years as there are fruits and flowers and leaves in what he planted.

'Padma Puran'

Forest is an organisation of unlimited Kindness that makes no demand for its sustenance but extends protection to all beings, offering shade even to the axeman who destroys it.

'Budha'

But the glory of trees is more than their gifts,
It is a beautiful wonder of line that lifts;
From a wrinkled seed in an earthbound clod,
A column, an arch in the temple of God;
A pillar of power, a dome of delight,
A shrine of song, and a joy of sight;
Their roots are nurses of rivers in birth,
Their leaves are alive with the breath of the earth,
They shelter the dwellings of man; and they bend
Over his grave with look of a loving friend.

'Henry Van Dyke'

Grow more trees !

Save the environment !!

Preserve Wildlife !!!

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EDITORIAL

TIGER to-day is a much maligned animal. Reason? its occasionally turning man eater and cattle lifter. Tiger by nature is not man eater, nor does it become man eater as a matter of fact. There are biological compulsions that make a tiger man eater. The natural prey of tiger are deer, pigs, buffaloes etc; but not man. Even the cubs born of a man eating tigress do not exhibit this instinct. Corbett maintained that "cubs of man eaters do not become man eaters simply because they have eaten human flesh when young". A tiger becomes man eater under the following three circumstances :-

1. When a grass cutter or wood cutter inadvertently approaches the den where the tigress had laid its cubs. The fear of impending harm the man might cause to its offspring compels the tigress to attack the man instinctively.
2. Tiger is known to attack a man only when it is obstructed in its attempt to kill a domestic cattle for its meal. Here any interference by humans is construed by tiger as blatant denial of its incontrovertible right to kill for staying alive.
3. When a tiger sustains grievous injury either by porcupine quills in paws or by gun shot in limbs, which incapacitates it for killing prey animals.

It may be reckoned that the aforesaid possibilities are exceptions rather than rule and chances of tiger becoming man eater are generally far and few between. But the press instead of playing down such sporadic incidents highlights them, showing tiger in poor light. Tiger and panther are blamed for heinous crimes and people are made to believe that they are dreaded beasts and are villain of their peace and co-existence with nature.

It is a well known fact that due to loss of habitat there has been a serious dearth of prey animals. If the tiger could find its prey deep in the forest, why should it come near the human habitation and risk its life. We have destroyed the tiger habitat beyond redemption and if the tiger goes astray from its normal course, we are only to blame for it.

The loss of human life is unfortunate and the plight of the poor man, whose kith and kin or precious cattle have been killed, can very well be imagined. But instead of calling names and killing the tiger our efforts should be to root out the cause of this ill by redeeming the tiger habitat and restoring normal prey-predator ratio. The famous maxim 'hate the sin and not the sinner', should apply in case of tiger also. Tiger needs sympathy and not vilification. The need of the hour is to create atmosphere where in people would realize the utility and virtues of wildlife in general and tiger in particular.

Furthermore, there is rampant poaching of tiger and it is being hounded for almost every part of its body ie; skin, bones, flesh, fat, blood, reproductive organs, eye balls, teeth, nails, moustaches and what not. To-day the pursuit for the tiger has become so hot that the hapless denizen has been caught in a no-escape situation. It is at the brink of extinction.

The whole world is concerned about the future of tiger. But it cannot be saved unless the public opinion world wide is mobilized against this rampant poaching and in favour of tiger. This onerous duty will have to be collectively performed by the government, N.G.O's and public at large. In the survival of tiger our interest is more at stake than that of tiger itself. The importance of wildlife for maintaining a healthy balance of nature cannot be overemphasized and tiger is paragon of wildlife. One single tiger will generate far more excitement and thrill than all the wild animals put together. Foreign tourists coming India place tiger only next to Tajmahal in their itinerary. Some of them spend days, sometimes weeks in Corbett National Park only to catch a glimpse of the tiger (*Panthera tigris tigris*). Let us protect, preserve and conserve this precious gift of nature to mankind. Instead of trying all sorts of gimmicks such as captive breeding, trans-location etc; for tiger conservation, emphasis should be on habitat improvement. It should be remembered that the ultimate conservation tool is habitat conservation.

THE FUTURE OF THE TIGER

By

Late P.D. Stracey

(Reproduced from 'Cheetal' Vol. X No. 1; Oct. 1967)

Two hundred years ago the tiger population of India must have been very great and high in proportion to the human population, kept at a low level by starvation, epidemics of diseases, child mortality and a generally low expectation of life from other contributory causes. At the same time the jungles were vast and game plentiful. But Pax Britannica, with its stoppage of local wars, its enforcement of the penal code for crimes against life, and the introduction of peaceful conditions in which settled agriculture gradually developed, brought about a change in the picture. The population began to increase and inevitably there arose a clash between the tiger and man.

In his rapid and indiscriminate clearing of the jungle for cultivation man came up against the game species as well as their predators, and although his weapons were primitive (he had not yet acquired firearms in any quantity, which were indeed denied to him until India gained her independence in 1947) he yet had the power to maim and injure, if he could not always kill. The combined result was a gradual increase in the number of man eaters. Cattle killing tigers on the other hand, did not have to take recourse to this alibi of injury for it was a habit that developed naturally, as game became scarce with the clearance of its habitat and cattle became more with an increasing population.

A hundred years ago the situation seemed to have been really bad, and many parts of the country were feeling the pressure; villages were being deserted and the jungle was; reclaiming cultivation. One alleged reason for the creation of man eaters in the past, which can no longer remain valid even if there were any substance to it because the basis is no longer there, was the abundance of human corpses during the time of epidemics and famines. Hindus burn their dead but in the past there were apparently occasions, during great famines and epidemics of killing disease like cholera, when the number of corpses completely outstripped the ability and resources of the people in regard to cremation. Bodies were then left unburied, with at most the placing of a live coal in the mouth-symbolic of cremation. To what extent this practice encouraged man eating among tigers it is of course impossible to say. The early British sportsmen with their matchlocks, then muzzle loaders, and finally breach loading smooth bores were poor killers when compared to the efficiently armed tiger hunter of today, and must have left many a wounded animal. It was the introduction of more efficient firearms, particularly the rifled barrel, and later the smokeless powder, which brought about a change. Although hardly anyone but Europeans could bear arms, the large increase in their numbers and particularly of the army after the 1857 'sepoy mutiny', meant a much greater volume of fire power being brought to bear upon the tiger population. By that time also the pursuit of big game and the hunting of the tiger in particular had assumed the nature of a cult with the Empire builders, and the slaughter of the tiger, as well as the lion, was on. The turn of the tide for the tiger commenced from then.

Perry, who claims that man eaters have been terrorising Indian villages for four centuries, has also estimated that in the last century in India more than a hundred thousand tigers were killed; yet he wonders why the mortality from man eaters did not show an appreciable decline until the period after the war- presumably the first world war- in spite of the increase in human population and the decrease in tigers. He quotes figures in support in the 1860 s the mortality was 1300 to 2000 victims annually, in the 1930's 1000 to 1600.

I think I can offer an explanation for the decline in the post war years, and that is the much greater efficiency in killing methods brought about by the use of the electric torch as an adjunct of the rifle. In the olden days tiger shooting was an uncertain business, and if tigers were fired at during the hours of darkness the odds were that they were wounded rather than killed (which meant more potential man eaters, incidentally); but after the introduction of the handy and efficient dry cell, electric torch which can be fitted to a rifle or shot gun, tiger shooting was made much easier. It is only in one State in India- the U.P., Corbett's country- that there has been for long a provision against shooting tigers after sunset, which fact has to some extent countered the destructive power of the electric torchlight for shooting tiger, and elsewhere this unsporting, but to some extent unavoidable, method prevails.

Perry was also puzzled regarding the static position in *man eaters* up to the end of the war in spite of the large number of tigers shot. It must be borne in mind that man eating is not prevalent throughout India and is confined mainly to certain localities, where it is generally of a long standing nature. While more tigers were being shot in the country it did not follow that more man eaters were also being shot. The shooting of a normal tiger is an easy affair compared to the killing of a man eater, and all the advantages of darkness are in favour of the man eater so long as you do not have an efficient killing technique- and that came with the electric torch.

I would add a footnote to this discussion on the incidence of man eating by tigers in the past by pointing out what appears to be an alarming increase of the scourge in areas where it has been prevalent for long, together with an extension to hitherto un-contaminated regions. During the last few years the problem of the man eater of the Sunderbans, for centuries the classical example of this macabre man-animal relationship, has assumed vexing proportions. Many persons seem convinced that the incidence of deaths from tigers in the vast stretch of tidal backwaters and waterways constituting the combined delta of the Ganges and Brahmaputra river systems has sharply increased, although the authorities tend to deny it. The victims have traditionally been fuel wood cutters and honey gatherers, both avocations conducted under the supervision of the forest department of Bengal, and by the very nature of their tasks the persons engaged in them cannot be completely protected from surprise attack.

There is no means of knowing, unless a detailed ecological survey is made, whether the increase in the numbers of man killing tigers in the Sunderbans is a *real* increase or only an *apparent* one. The latter could well be the case and many be due to the greater numbers of people being exposed as the result of the increased exploitation that forms part of the expanding

activities of a planned development, such as India is going through, or to depletion in the natural food of the tiger (which in this case is the *chital* or spotted deer) compelling it to turn to man. In any case both these reasons would imply that the tiger population may have been subsisting on 'half rations' all this while (normally a tiger requires to kill once every three or four days but this period could be stretched out to a week). Only one thing seems certain and that is there has been a great increase in recent years of the number of guns and the activities of meat hunters has forced the tigers to take to man eating. It is also suggested in this connection that the increase in the number of inexperienced hunters among this army of gun owners has brought about a concomitant increase in the number of man eaters, on the logical presumption of many of them wounding rather than killing tigers outright.

The same grounds are offered as explanation of the position in Orissa, which has in the past few years come into the news with reports of large number of people being killed by man eaters. Recently there was an appeal from a missionary in the Bastar area, home of the war like Maria Gonds- the one people who might be expected to be able to look after themselves against tigers, incidentally- for help in getting rid of man eaters in a particular area. In this case it is the tribals themselves who have been responsible for the creation of a situation in which they are being attacked by tigers, for they have decimated the game by unrestricted hunting. These central Indian tribes, once masters of vast forests which are now reserved and where they lived mainly by hunting are denied the right to hunt in them except for a symbolic, ritual battue held once a year, in which they kill everything they come across. But their hunting instincts are so deep rooted and their society is so untrammelled with taboos as regards killing of animals, that they have virtually cleared their jungles of game. Is there any wonder that the tigers have turned on them?

Corbett's country- the Naini Tal district, gateway of Kumaon and part of the belt of the Himalaya from the Ganges to the borders of Nepal in which his hunts for man eaters took place- is periodically in the news and the scourge has certainly not ended there.

But in addition to these chronic 'sore spots' alarming reports of tigers killing human beings are occasionally received from various parts of the country. Only the most serious get into the newspapers, however, and it is impossible to gather the whole picture. Nor is it possible to gather statistics from the central Government in Delhi, of the numbers killed in the whole of India, as there is no arrangement for the collection of such data from States. Wild life, like forests and agriculture, is a transferred subject and no longer the direct responsibility of the centre, and the type of information which was once available, and on which Perry apparently based his figures, is therefore not readily available. Once upon a time rewards were offered for the destruction of tigers in India- as was done for elephants in those parts of the country where they were a hindrance to the extension of tea or coffee planting- but those times are gone. Nowadays the authorities proceed on an *ad hoc* basis, and whenever the pressure becomes so serious as to defy the usual processes of proclamation and rewards for destruction of offending animals they turn out to armed police. The result is often the wiping out of innocent tigers along with the guilty!

The person who thinks seriously over all this has to admit of a feeling of frustration over this business of man eaters. In the first place the lack of a scientific approach to the question, and the failure to scrutinise and sift the explanations offered for the increase of 'bad' tigers in the country, is disappointing. Admittedly there are a number of variables in the problem but there seems little to be said for lack of attention to it. As a piece of applied research into an interesting aspect of animal ecology, the study of the man-tiger-game species relationship would be well worth the while. There is great urgency of ascertaining the true facts and actual position before applying long term remedial measures in the interests of man, the tiger, and its animal victims.

There are good grounds for believing that the boldness acquired in the practice of cattle lifting leads to man *killing* and then man *eating*. Many a man killer has attacked its first victim, and probably more unintentionally than otherwise, when being obstructed in its attempts to secure a meal for itself from a herd of cattle. From killing to eating is but a step. While this may account for some of the cases of completely healthy tigers which have taken to man eating, the other type of such cases being the cubs of man eating tigresses which have acquired the taste from their mothers (although there has been doubt cast on this belief by no less a person than Corbett) all the records go to indicate that it is injuries which are at the bottom of man eating as such.

Corbett maintained that "cubs of man eaters do not become man eaters simply because they have eaten human flesh when young". This view is the more extraordinary because every other writer has expressed, perhaps without sufficient justification, opinions which are to the contrary. I have no means of knowing why Corbett believed this- if he discussed it in any of his books I have missed it. Did it stem from his generally big hearted, and slightly romantically coloured, opinion of the tiger in general? Of course it is an accepted belief that man eating tigers do not subsist exclusively on a diet of human beings, and that they are capable of- in fact may be habituated to- killing and eating game animals and cattle, and Corbett may have had this fact in mind. It is interesting that Kenneth Anderson, whom I have heard described as the 'Jim Corbett of the south', avers that man eating tigers are permanent addicts, unlike man eating leopards which will lay off man killing for long periods. Incidentally, Anderson states that man eating tigers are more common occurrences than man eating leopards, for the simple reason that the latter have always a wide choice of prey.

In coming to any such conclusions the difficulties of arriving at fair estimations of probability must be sufficiently allowed for by the persons concerned. Corbett's conclusion in regard to the fatal liking for human flesh not being necessarily transmitted to the offspring of a man eating mother seems to be at complete variance with what would be a normal biological phenomenon. It is true there have been one or two rare cases in India where carnivores like the lion and the tiger have subsisted in captivity on non-animal food, but the natural food preferences of a species which is exclusively a meat eater cannot be denied and it is almost unreasonable to conclude that a tiger cub's acquired tastes are not persistent enough to follow it into adulthood, especially when they fall in line with its instinctive need of animal flesh.

Of all the 'natural' injuries that can lead to such incapacity as to cause a tiger to take to the killing and eating of human beings, the damage from porcupine quills appears to be most common. In most cases the injuries are in the paws and lower limbs, and could be sufficiently serious as to affect its pulling down of natural prey and killing of cattle.

Whatever the natural causes responsible for man eaters being produced, they are likely to be outweighed by the artificial reasons of injuries inflicted by human beings, and prime among these is that of wounds from gun and rifle. Here at least the facts are incontrovertible and there is no room for the weightage of personal subjectivity. Some wounds may enrage to the point of the animal wanting to take revenge: the wounded tiger's whole reputation for ambushing is assailable is there to support this. Although a wound may not be crippling enough to prevent it from killing its natural food, a tiger may go on being a man eater once it is launched on such a career. In fact it is these lightly wounded tigers which, on recovery, give no convincing reasons as to why they become man eaters and provide the puzzling features of certain cases. But generally the evidence is glaringly clear and leads one always to fulminate against the persons responsible for the initial 'crime' against the tiger, which sometimes seems to be greater than the guilt it later accumulates against itself!

The tiger that has become a man eater-or even a cattle killer- has no future. The hand of every man is against it and sooner or later it falls victim to a bullet. To that extent, therefore, there is a grave threat to the tiger in India today, wherever there is this clash between it and the human population. This is the case in all the peripheral forest areas so far as cattle lifting is concerned, for there are always large numbers of cattle living outside the reserved and protected forests of the country but grazing inside them. The 'right of pursuit' into a Government forest is granted only in the U.P. to an aggrieved cattle owner, who may sit up for the marauder. This, to some is almost a quixotic gesture in the light of the prohibition on the shooting of tigers later than forty-five minutes after sunset. Many sportsmen in the U.P. have the grouse that after they have made an elaborate and expensive *bundabust* and are sitting up expecting the tiger to come out any moment, the authorities pull them down from the *machan* in the enforcement of the no-shooting-after-dark rule; at the same time a person from the neighbouring village, on the plea that his cow was killed by a tiger (and which was illegally grazing in the forest anyway) is permitted to take his revenge without paying for the right to shoot in the reserved forest according to the rules.

It was reported some time ago that tigers in Mysore and Madras were being poisoned with the pesticides being supplied to cultivators, and that their skins were finding their way to the workshops of the local taxidermists. In a furrier's shop window in a hotel not a quarter of a mile from where I live I recently came across a magnificent tiger skin for sale. Through curiosity I enquired the price and was startled to find that a trophy which would have cost Rs. 300/- twenty years ago is now selling for ten times that price! The proprietor of the shop calmly told me that he was getting the skins from south India and that he had sold four pieces already for that price. How can the tiger of India stand up against such pressure for its pelt?

Twenty years ago Jim Corbett expressed an opinion to Lord Wavell, the then Viceroy of India, that the tiger would be wiped out in ten years. He was laughed to scorn by complacent persons in authority, and even those who knew Corbett thought he was exaggerating. But are his prognostications coming true perhaps? Large areas of the best tiger habitat have been cleared at the foot of the Naini Tal Himalaya, within fifty miles of Corbett's home, for mechanised farms and with the grass and trees have gone the game, as well as the tigers that preyed on it. The same is the story elsewhere. Forests which were the private shooting grounds of the Maharajah of Mysore, once a very keen hunter of tigers and elephants, have been closed to shooting because of the alarming decrease in the tiger population since their transfer to the Government forest department.

In India the sole hope for the tiger lies in the retention of larger blocks of forests of sufficient extent and backed by hilly ranges, as is the case in the greater part of the sub-Himalaya and in central India, where it can range freely and have sufficient game to prey upon. The latter is the curx of the problem, for a forest is of no use without the game animals suitable for the tiger's diet. And so we come to the question of general protection of wild life and of game animals in particular. Unfortunately here also the position is not very satisfactory, as indicated earlier, and if the tiger is to survive- not in a few isolated, small sanctuaries but in forests which were once its home- much more will have to be done. Destructive practices such as shooting game from jeeps and cars, both by day and night, sale of game meat and above all, excessive and illegal shooting in Government forests, must be stopped.

Fortunately the Indian tiger is not exposed to any great extent to the depleting effects of superstitious fancy in regard to the supposed value of its various parts, as is the case among the Malaya and Chinese races where this cult of the tiger may be said to be highly developed. There is a panacea for almost every ill to be made up from some part or the other of the tiger. The flesh is a remedy for debility, pills made from the eye balls will cure convulsions and blindness, the skin either burned or roasted and mixed with water is a general cure for illness, the sexual parts are believed to have aphrodisiacal properties and, with the Chinese particularly, the bones chiefly those of the head, are greatly prized as containing a soul substance or vital fluid akin to that of man. The Indian faith in the value of the tiger's fat as a cure for rheumatism and the use of the clavicle or 'lucky' bone, whiskers and claws as ornaments and charms, is shared by these races. In India it is a common occurrence for a sportsman to lose some of the whiskers and claws of the tiger he has just shot to eager snatchers of these much prized articles among the crowd which always gathers on such occasions. To what extent these beliefs are influencing the survival rate of the tiger is a matter for consideration. An ominous pointer to the future is the persistent drain on the world's rhinoceros population for its horn, valued by the Chinese as a highly effective aphrodisiac. On this analogy alone there seems no future for the tiger in south east Asia.

As a minor solatium we have the general respect, tinged with awe, in which the tiger is held in India and countries nearby among certain classes of people at any rate. Some of the forest dwelling tribes of central India will not refer directly to the tiger by name but will use an indirect

honorific, such as the 'Great One'. The Datia tribe of the north eastern Himalaya consider they are the kinsmen of the tiger and call it 'brother'. The superstitions associated with the beliefs that men can turn themselves into tigers and vice versa are less common to India than to Malaya and the countries beyond. This mystique of the tiger is more prevalent among the common people than the more sophisticated classes and to that extent its protective value is less, but it nevertheless counts in the overall approach to the tiger. Unfortunately it is not the *common* man alone who holds the key to the future of the tiger in his hand!

The tiger today is India's most valuable attraction to a certain class of foreign tourist, and in its way is fit to be ranked with the Taj Mahal as a foreign exchange earner. The growth of *safari* organisations eager to cater for the visiting sportsman has been a feature of the post-independence period, and a tiger shoot arranged by them comes under the category of a luxury trade. Even the indigenous sportsman finds it an expensive proposition to arrange a shooting camp.

Provided this sphere of activity which has the tiger as its objective can be properly controlled and all the unhealthy possibilities associated with it eliminated, it can do a lot for the future of the tiger. Something in demand would normally be considered as something worth conserving and multiplying but unfortunately, as in the case of so many other things, the demand is increasing at such a pace that there are grave fears of the supply becoming exhausted. Certain steps, such as a ban on the shooting of tigresses and tightening of the rules governing collection and export of tiger skins, will help. A raw tiger skin fetches more than 100 Pounds at pre-devaluation rates and the demand abroad for skins of this animal-as well as of leopards-is tremendous. It is only by these means and by strictly protecting wild life and 'rationing' the stock of tigers will we be able to ensure that the tiger will be with us in any appreciable numbers fifty years hence.

Statistics are tricky things to play with but I cannot help quoting some figures. In 1877 according to Burton, a total of 1579 tigers were shot in British India. No one knows how many more were shot in the native States. Going back fifty years earlier, during a period of eight years between 1820 and 1828, an average of 138 tigers were shot annually in Bombay Presidency alone. A little more than a hundred years later, in the twenty years spanning World War II, from 1934 to 1954, (according to Chaturvedi) an average of 280 tigers were shot annually in all of the seven major tiger bearing States of India together. Whichever way we look at these figures one cannot help asking the question "Quo Vadis *Panthera tigris* ?"

SOME REFLECTIONS ON PHILIP CARTER'S ARTICLE 'MINING FOR DISASTER'.

By
*Bulu Imam**

PRELUDE

Centre for Science and Environment published an article in *Change*, September 15, 1997 (pages 64 & 65), titled 'Mining for disaster' by Philip Carter. In this illustrious article Carter highlighted the threat perception due to open cast mining to the fragile forest corridors which are still being used by wild animals, particularly tigers and elephants, in Bihar and adjoining states of Madhya Pradesh, Orissa and West Bengal. He elucidated that the link between the tiger forests of the Konar watershed in central Bihar and tiger reserve of Betla in the west of the state will be severed by the 23 open cast mines that are in progress in this area. He quotes Arun Bhaskar and M.K. Pandit, two researchers, as saying that through these corridors the tiger habitat in Bihar is linked to the tiger forests of the Bundelkhand and 'neck of the tiger' in north east Madhya Pradesh, including the tiger reserves of Kanha and Bandhavgarh and also to the Bustar forests into Orissa.

Bhaskar and Pundit stated that the numerous recent killings of domestic buffaloes by tiger in Konar watershed indicate that the ecosystem is under stress due to low numbers of wild herbivores. The study carried out by them has shown a continuous forest belt capable of providing good cover to tigers between the Konar and Betla tiger reserve and points out that when prey animals decrease tigers extend their range and are also likely to attack domestic livestock.

Cater warns that the open cast mining as pursued by the Coal India Ltd. and allowed by the Government of India threatens the tiger with extinction. He touched a fringe of the problem and the following article by Bulu Imam is a grand elaboration of the same.

Editor.

The coal mines which have traditionally eaten into the South Bihar landscape and forests along the Damodar river have slowly replaced rich sal forests with barren wastelands. The area is now devoid of any forest cover in the lower Damodar. The fabled forests of Manbhum forming elephant and tiger corridors between Purulia and Giridih and across what are the burning minefires of Dhanbad and Jharia today, have disappeared. From Giridih these forests stretched to Monghyr, practically upto the Ganges River, but today Coal India in collaboration with Canadian technology on the other hand is destroying that forest corridor. The past fifty years have seen the most massive expansion of coal mines and big dams in Hazaribagh, and its adjoining districts, many of

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which have been carved out of the old district of Hazaribagh. Hazaribagh literally means Land of a Thousand Tigers, which prompted Carter to call the ecosystem by that name, which I think is both apt and original. I rule out the thousand gardens adage on the grounds that the name is older than Moghul presence in the area, and thousand gardens (bagh) is an Urdu word. The tribals and tigers of Manbhum are alas no more! The forests of Giridih- Monghyr are forever cut off from the Purulia forests, even as the Suvarnarekha Multi-Purpose project severed the links between Purulia and the Dimna forests near Tatanagar forcing the elephant herds towards Hooghly across open rice fields, or down towards Orissa, where again mines blocked their way. I have walked over every single mile of the tracts I am referring to or describing and can speak with authority on the subject. There is no pride in this statement. It is a bald fact. The big dams of the Damodar Valley Corporation soon after Independence set up building electricity for Nehru's dream of industrializing India, and in the process destroyed invaluable tracts of forests and severed vital corridors linking Hazaribagh and Koderma (Telaya Dam) and these dams appear in the watersheds of the forested upper regions of the Damodar, Barakar, (Maithon Dam) and Konar (Konar Dam). These dams breached the forests in twain forever. They destroyed the corridors of forests used since time immemorial by tigers and elephants — and forest men.

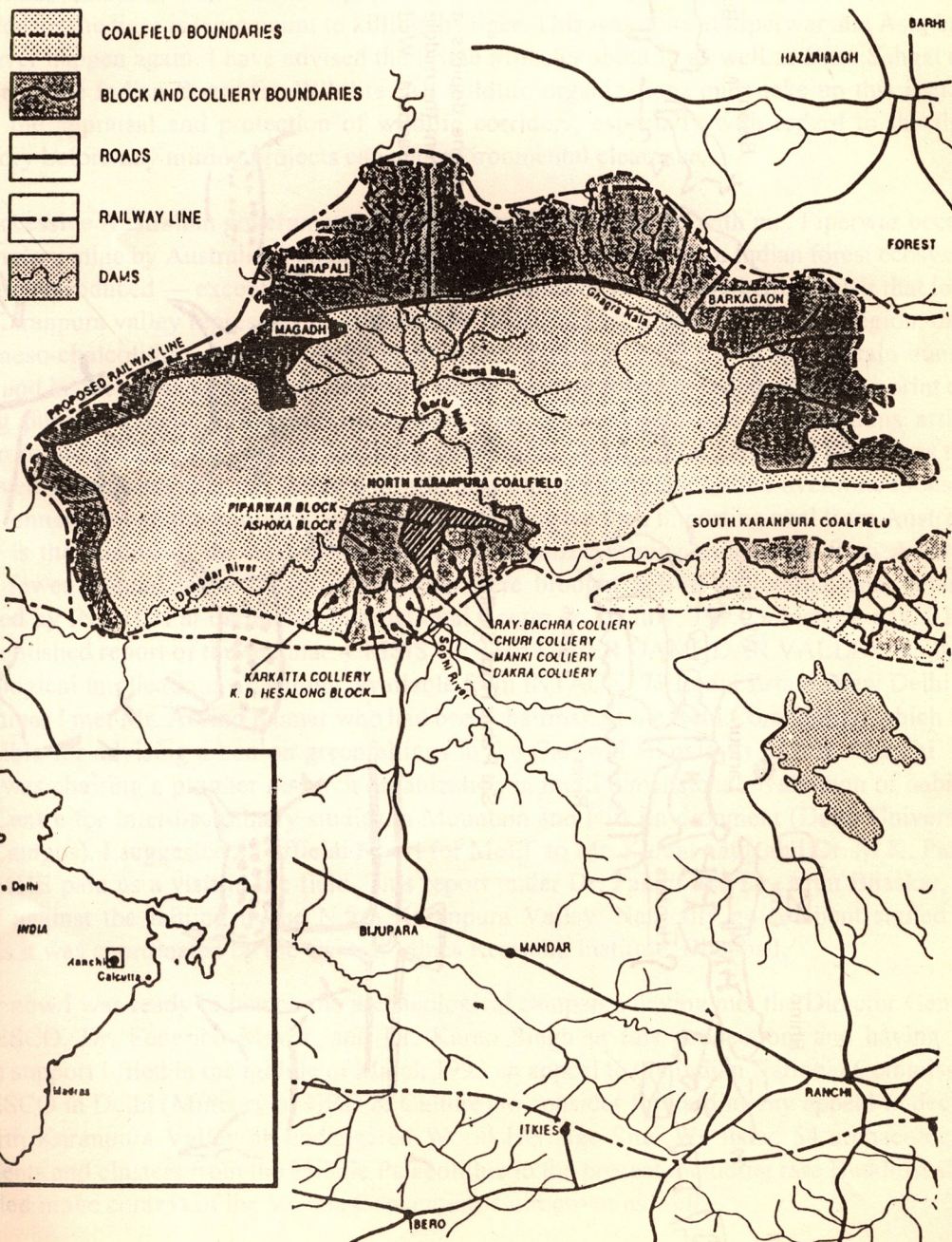
In 1987 I heard about an infamous opencast coal project known as the North Karanpura Coalfields Project in which twentyfive opencast coal mines will initially tear open over a thousand square kilometres of prime tiger habitat and forested corridors linking the forests of Hazaribagh and Palamau with the effect of severing the forest links between the Palamau jungles and the Chatra jungles, the Palamu jungles and the Purulia- Ranchi forests and cutting the link into Hazaribagh forests and thereby destroying the corridors linking the Giridih, Koderma and Gaya forests (Gautam Buddha NATIONAL PARK, Deborh NATIONAL PARK, Hazaribagh NATIONAL PARK, etc.). The mines will displace 203 villages and affect a 75% tribal population, and the finest agricultural lands in the state. The first of these mines began at Piperwar in the western end of the North Karanpura Valley in the upper watershed of river Damodar in 1988. Almost immediately I launched a formal opposition to the project having been advised to act by my late maternal uncle His Grace George V. Saupin S.J., then Bishop of Hazaribagh and Daltonganj. The North Karanpura valley is an upper trough or closed basin in the upper steppe of river Damodar, which flows between the phalanx formed on north and south by the plateaux of Hazaribagh and Ranchi. I acted instantly by great good fortune the previous year having walked through the valley with an elephant on my way from Konarak in Orissa to Gaya with the explorer Mark Shand. I had hunted tiger in the dense sal forests along the golden sands of the curved Damodar before it plunges down the cascade to the Ramgarh valley at Patratu. I heard Coal India was bringing up a road here from the lower valley into the singing stillness where I hunted tiger years ago, and which is still Hazaribagh's best tiger forest. I found a big Super Thermal Power Plant was envisaged (alongwith a dam) to draw on Piperwar's coal, and that it was to be installed near Tandwa, a region of tremendous archaeological, cultural, and historical importance in the heritage of Bihar. As the Regional Convenor of the Indian National Trust for Art and Cultural Heritage, I launched a campaign which escalated in a decade long war. I immediately organized a cycle rally from Ranchi, through the North Karanpura Valley with protest slogans, and uptil Hazaribagh town where I live. Our protest resulted in Maneka Gandhi's ministry ordering an

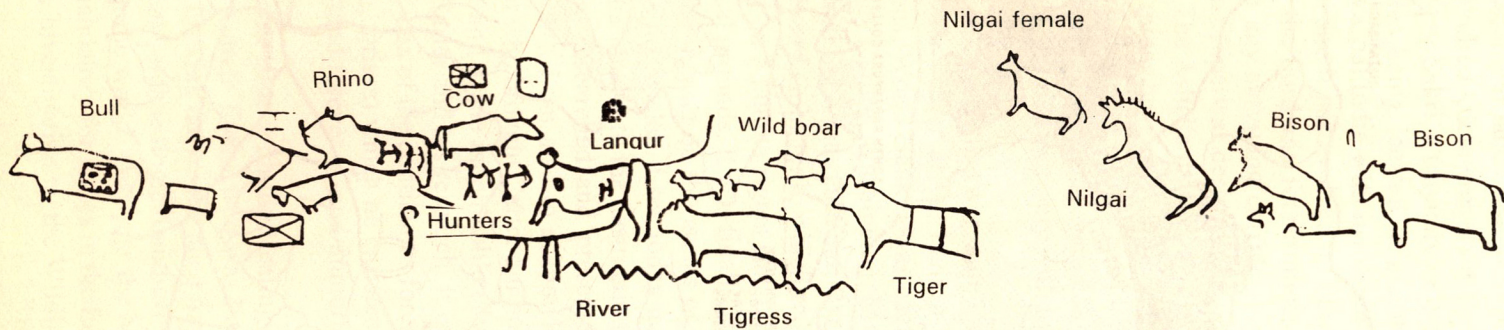
enquiry and the STPP was scrapped on environmental grounds. I learn now that again the STPP has been cleared and lands acquired for the purpose. In the forested watershed of the Barakar, nearly two hundred kilometres away there was another infamous project to build an illegal dam across the Upper Sakri, a tributary of the Barakar. Again the ministry stalled it. Both represented major victories being located in major tiger habitats. Today the Giridih forest corridors are threatened by Coal India with involvement of Canadian technology. In Piperwar the technology is Australian, and it has evolved into the adjacent second mine Ashoka, and will, if not stopped, escalate into the third and fourth mines, Magadh and Amrapalli which will annihilate the very possibility of any surviving corridor between Hazaribagh and Palamau. It is very important to appreciate that Piperwar destroyed the corridor connecting Balumath with the Mahudi ranges of NKP valley. The Ashoka mine compounded the crime. On the south bank of the river the spate of Coal India's mines have prevented possibility of regeneration of any corridor and elephant herds are forced to negotiate a narrow corridor almost on the scarps of the Ranchi plateau, and last year as many as seventy elephants were holed up around McCluskieganj, an erst while Anglo-Indian township which gained notoriety with tourists.

In the case of the Piperwar mine I set out to make it an example of ill-planned development, and I raised the matter at the highest national and international forums including UNESCO, United Nations, World Bank. I was backed by several important international organizations like Mineral Policy Centre, Washington; Minewatch Collective, London; UN Human Rights Centre, Geneva; Sacred Sites International, Berkley, California; Amigos de Los Indios, Madrid; and the Office of Edward Goldsmith, which requires no introduction. First I fought on an environmental footing, then on a human rights stand, and after we found extensive archaeological deposits, on archaeological grounds. It was finally, after having exhausted the possibility that I hit on the idea of fighting the mining on the issues of wildlife corridors. It was the last ball in the over, but it scored the centre wicket. I see today no chance for Coal India to topple the massive opposition voiced internationally to the destruction of the tiger corridors detailed by Philip Carter in his two magnificently researched and presented reports in *Change*, and *Sanctuary Asia*, this month (October, 1997). I am also to acknowledge a debt to Anil Agarwal of Centre for Science and Environment who brought Carter over here from Canada in the first place, then funded his research trip here and to the indomitable environmentalist our good old Bittu Sahgal who threw open his door to Carter and his research. It is Carter whom I must thank for "discovering" through me perhaps, the idea of the continuous forested ecosystem in the four states (Bihar, Madhya Pradesh, Maharashtra, Orissa) which he christened as the Thousand Tigers Ecosystem - a name I believe which will stand forever — and immortalize HAZARIBAGH ... land of a thousand tigers!

I first took issue with the Keating government, subsequently with the Howard government, and Senator Gareth Evans who was Foreign Minister knew me well, and before I finished with him he was backing me on the need for the Indian government to make archaeological clearance by the national archaeological authority mandatory for any coal mining, as is standard practice elsewhere in the world. Last year the Ministry of Environment and Forests made archaeological clearance mandatory for mines in the Environmental Impact Assessment. What is required now is a mandatory investigation by the Wildlife Institute of India (which have not proved reliable so far

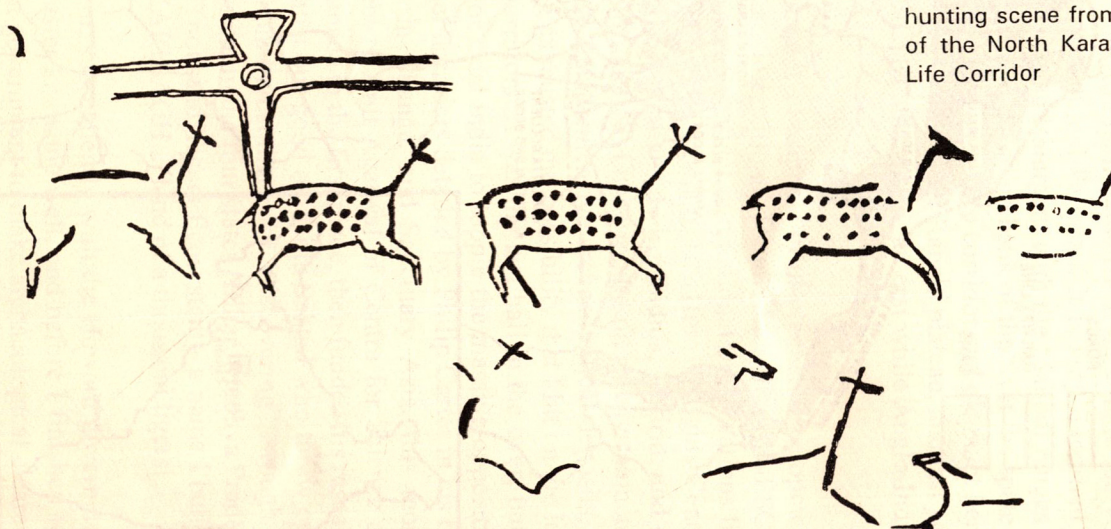
Map depicting mining disaster in Hazaribagh area.





Sat Pahar Rock Shelter (II) - 3.6' x 14'

The above scene depicts a hunting scene from the middle of the North Karanpura Wild Life Corridor



Sat Pahar Rock Shelter (III) - 7' x 10'

in this regard, I may add) to clear any region from the wildlife corridors aspect. The corridors may be deceptive regions of interconnectedness, and their worth does not lie in their total tiger or elephant habitat but in their crucial importance in the flow of wildlife between habitats. To sever a corridor for the tiger is tantamount to killing the tiger. This was done at Piperwar and Ashoka. It must never happen again. I have advised the Prime Minister about it, as well as Bittu Sahgal as a Member of the Indian Board for Wildlife. All wildlife organizations must take up this issue of making the appraisal and protection of wildlife corridors, especially with regard to the tiger, mandatory before any mining projects can get environmental clearance.

Successive Australian governments as I mentioned had to put up with me. Piperwar became an exemplary mine by Australian standards, and in so doing proved that an Indian forest ecosystem cannot be reproduced — except perhaps by time, thousands of years. Can the tiger wait that long? North Karanpura valley represents fourteen of the finest rockart sites in the eastern region, dated to the meso-chalcolithic, which is about eight or ten thousand years old. They contain hunting scenes, and in one perhaps the oldest depiction of the tiger yet found in Indian rockart (a print of it is being published here). The prehistoric habitation of the valley and a continuous artistic tradition of the tribals gave grounds for indigenous rights. Agricultural lands fed by no less than thirtyseven streams smother the valley with silt, and a high watertable settled over nine thousand million tonnes of coal, the mining of which is more expensive than importing coal from Australia, so poor is the quality of the coal in the valley. Mechanized mining technology from Australia assures fewer manual jobs. The pros and cons were brought before an international seminar organized by INTACH at the Indian International Centre on 10 July, 1993, a historic day. There was a published report of the seminar: *CRISIS OF THE UPPER DAMODAR VALLEY; Cultural and ecological implications of Mining*, available from INTACH, 71 Lodhi Estate, New Delhi. At this seminar I met Mr. Arvind Kumar who had been chairman of the Reni Commission which was responsible for advising a ban on greenfellings in the Garhwal Himalayas to Mrs. Gandhi. Mr. Kumar was chairing a premier research organization in multi dimensional evaluation of habitats called Centre for Interdisciplinary studies in Mountain and Hill Environment (Delhi University, South Campus). I suggested an official report for MoEF to Mr. Kamal nath, and Dr. M.K. Pandit of CISMHE paid us a visit in the field. This report under Dr. Pandit and Dr. Arun Bhaskar, has advised against the mining in the North Karanpura Valley. Naturally government stalled the report as it was coordinated by the Central Mines Research Institute, Dhanbad.

By now I was ready to launch the archaeological campaign having met the Director General of UNESCO, Dr. Federico Mayor, and Dr. Karan Singh in this connection, and having had positive support I filed in the middle of March 1993 an appeal to the Indian National Commission to UNESCO in Delhi (Ministry of HRD & Culture) to consider forwarding my appeal to declare the North Karanpura Valley an endangered World Heritage Site. We listed 54 archaeological monuments and clusters from the Middle Palaeolithic to the present including rare Buddhist sites. I appealed in the context of the Vienna Convention's directives as well.

Now I will like to explore along another tack. My father's name (Tootoo Imam) will be familiar to most CHEETAL readers. Writing in the Introduction of his book *BROWN HUNTER* now nearly two decades back my father speculated the demise of the Indian tiger on socalled

"Historical" grounds, inferring our bursting population would just eat up the habitat. With twenty years of hindsight I would heartily disagree with him completely! Village populations in these past two decades have not threatened tiger habitats by their expansion. I am not speaking about desert of Rajasthan or Gujarat thorn scrub parks or the so called gujjar phenomenon. I am speaking about central and eastern India, the heartland of tiger country, from Kiplingland to Hazaribagh ... and down to Chilka lake almost and the forests of Ganjam and Koraput we know (and love!) so well. The tribal has everywhere been ousted by so-called industrial development projects of the government deep in the forests. Even tribal lands have been forcibly taken away and settled in favour of big farmers in these forests. The destruction of the tribal and the tiger was synchronously masterminded by the government, and it is beyond the scope of petty bureaucrats involved in this mass dehumanization and deathknell of the tiger to say anything in defence. It has to be accepted as a signal failure of the past fifty years of so called modernization.

What Carter's studies have revealed is that there has been an official coverup by the government of the extermination of the tiger by destruction of its jungle habitat. It involves also the Wildlife Institute of India, and even Project Tiger, both of whom I have been imploring for years to do something about identifying tiger populations threatened by mining in Hazaribagh, but they stoutly gave good reasons not to (Personal communication from S.K. Mukherjee to me dated 10th April, 1995). The Ministry of Environment and Forests can in the evidence of Carter's study be publicly upbraided now by the world community (which is going to happen *historically*) for aiding in the extinction of the Indian tiger and successive ministries will be held up for post mortem judgement. Why did they not check up about tiger habitats and corridors before laying the groundwork (and continuing clearances for mines) in the massive 495 opencast coalmine grid planned across the Thousand Tigers Ecosystem? It is a question every American and European high-school kid will be asking shortly since the study is now available before millions of viewers on the Internet (where it is being coordinated by Janet Tilson from Minnesota Zoo). When I spoke about the tiger and elephant corridors before the First World Mining Environment Congress/organized (December, 1995), by the Central Mines Research Institute, Dhanbad, with maps and slides all I received was a brutally sarcastic report published by the CMRI. The UNESCO appeal has been stalled for four years, without any government explanation, despite INTACH's vast contacts.

I would like to end with what I think is the most important point as proof of an official coverup. The Wildlife Institute of India has officially placed the figure in the 170,000 sq. kilometre forested tract of Thousand Tigers Ecosystem at 1500. They are unable to give statistics outside the Parks. WHY? Surely all those tigers don't live in the parks. In Betla for example only about five of the fifty odd reported tigers are in the park at one time. I know I will stir a hornets nest with my remarks, nor do I care. What is more important than finding fault with one another at home is for the wildlife and forest authorities to gear themselves up to start answering some really hard questions which are going to be thrown at them by the international voice of opinion — and this does not mean good old friends from the World Wildlife Fund or the International Union for the Conservation of Nature, but by some really mean people who do not like being made fools of ... especially where their money and our tigers are concerned.

SUNDARBANS - UNIQUE HERITAGE SITE FOR MANKIND

BY

*Dr. Kalyan Chakrabarti, I.F.S. **

I awoke from a deep sleep. It was about 11 in the night. A pair of eyes glowed in the weak, flickering light of the Kerosene lamp in the boat; warm putrid breath fanned my face. The animal stood amidst the five of us almost as though deciding on its prey. I tried to shout out to the others but my voice failed me as I helplessly watched the great beast select 36 year old Nakul Sarkar lift him effortlessly in its jaws and vanished into the darkness. It was all over in moments. There was practically nothing I could do. I have seen many Sundarbans tigers but nothing like the one I saw that night. Translated from Bengali these were the words of Sanatan Halder, a fisherman in Sundarbans. Bright, young, 25 years old Sanatan had been in the fish trade for a number of years and knew well the hazards and unforeseen dangers of his harsh inhospitable home of Sundarbans. Sanatan described this incident to me when I had been to Sundarbans tiger Reserve on the last occasion.

MANGROVE - A BIOLOGICAL SYSTEM

The Sundarbans where land and sea meet, is a region where venomous snakes, sharks, crocodiles, tigers spotted deer and wild pigs co-exist in an admixture of savage power and wild beauty. Here fishes creep up the trees, tides run in opposite directions in the same creek, molluscs and crustaceans abound and high tides occur twice a day. Life forms once having adapted to the hostile, extremely saline terrain, actually find themselves protected from outside influences as a few other creatures can ever enter the world of swamps. Adversity has given birth to a tough resilient and complex biological system. Like all tidal forests the Sundarbans has been enriched by silt-carrying rivers over millions of years; its vast surface is carved up by a network of tidal creeks and channels. Large chunk of the dense mangrove forests of Sundarbans goes practically under water during high tide and all land animals including tiger had to lead an amphibious mode of life.

The swamps of Sundarbans support the biggest tracts of estuarine forests in the whole of the world covering about ten thousand square kilometres (10,000 KM²) where tidal action promotes a rapid circulation of nutrients and salinity varies widely both in vertical & horizontal planes.

It is no gain saying that man's basic life support system consists of land, water, air and the plant and animal resources in the biosphere. The crux of the whole problem is that while the biosphere is richly endowed with renewable and non-renewable resources the human race has

been multiplying at an alarmingly fast rate and consequently the demand for more and more resources multiplies. This is equally true for the dynamic mangrove ecosystem of Sundarbans. The management of this ecosystem is a story of unceasing battle on continuous stresses and strains, thrusts and counter-thrusts amongst various components of nature. The management includes amongst others manipulation of various physical entities of nature by way of social engineering to counter balance the ever increasing needs and aspirations of man. Sundarbans Project Tiger launched in 1974 over 2585 KM², Sundarbans Biosphere Reserve since 1989 over 9630 KM² and Sundarbans Development Board are some of the notable ones amongst the development agencies engaged for the sustainable development of the ecosystem.

BIOLOGICAL DIVERSITY

I had an opportunity to conduct some intensive bio-ecological study in Sundarbans ecosystem. It reveals from such study that Sundarbans exhibits very low plant and animal diversity. The number of individuals within a species and the number of species within a genus remain in a state of natural balance in the midst of complexities of various interactions. The individual species have to struggle for survival against the physical properties of environment and soil and water conditions; also in the competition for food and against the danger of being eaten. The competition is with all other species of living creatures in their neighbourhood and at times even with individuals of their own species. It is well known that other factors remaining constant low generic and specific diversities indicate the high probability of extinction of the whole biota. So the low plant-animal diversity for Sundarbans ecosystem is clearly a warning signal for ensuring strict protection of this biota from future impending ecological disaster. It is thus necessary to reconsider and reorient the broad conservation strategy of Sundarbans mangroves.

Sundarbans mangroves stand supreme in the mangrove map of the world. Mangroves are the vegetation of trees and bushes growing in brackish and saltish, muddy swamps along coasts and estuarine blanks in tropical and subtropical regions. More than 70% of the tropical 'coast line' is lined up by mangroves. They grow in between the spring tide level and mean sea level where the wave action is feeble. The stymology of 'mangrove' has its origin in two Portuguese and English words. viz., 'Mangue' and 'grove' respectively. A mangrove tree or bush is called 'mangue' in Portuguese, whereas the community of mangrove trees and bushes are termed as 'mangal'. 'Mangal' refers to the forest community and 'mangrove' refers to individual kinds of trees.

The distribution of mangrove in subtropical regions is influenced by the pattern of warm water and cold water currents respectively. Soft mud, sand bars and the protected topography of the Bay, lagoons and estuaries provide shelter from wave action and thereby enhance luxuriant growth of mangrove vegetation. The geographical distinction of mangroves mainly involves two areas, namely, New World mangroves (which include West Africa, Atlantic U.S.A. and Pacific America) and old world mangroves (which include East Africa, Australia, Asia and Oceania).

The mangrove vegetation is represented by 110 species belonging to 60 genera and 35 families of which 30 species are new World species, 80 species old world species and 5 species common to both. About 60 species of trees and shrubs belonging to 40 genera and 30 families are represented in Indian mangroves.

The mangrove plants depend on the tides and live only in the intertidal belt that is alternately covered and uncovered by coastal sea water mixed to greater or lesser extent with the water from land run off. No other association of plants can live in the intertidal zone nor can the mangrove plants live and grow well above or below this. This is the ecological significance of these specialised groups of plants.

MANGROVES - FOODWEBS

The fauna of the mangroves is not only important in itself but also for the role it plays in the complex but delicate food web in the processing and transfer of nutrients and energy in the transmission of plants, animal and human diseases in the pollination of plants and so on. The mangrove forest creates an ecosystem where an extremely large number of big and small animals and microbes find their suitable ecological niche. So the ecosystem conservation rather than species conservation is the need of the hour as mangrove conservation can hardly be effected in isolation. Single resources can not be indefinitely productive of their own if isolated from their ecosystem; there is no species of plant or animal or microbe that is not dependent on other elements of the environment. Sundarbans mangroves provide food, shelter and other essential ingredients for human existence like other mangroves elsewhere. They act as shelterbelts and wind-breaks against the mighty sea waves and protect the human habitation from storms and gales. So its destruction will bring disaster to humanity.

Mangroves should thus be regarded as life sustaining silvi-agri-aquacultural complexes and need be developed as heritage sites for human existence and survival.

FORESTS TODAY; DESERTS TOMORROW

By
Sumitra Rath*

Orissa is one of the few remaining states of India with over 1/3rd of its geographical area covered with forests. But there are good reasons to be alarmed about the threats looming over them. While 36.72% of its geographical area is covered with mostly tropical dry and moist deciduous forests, a mere 18.34% of the total area consists of high crown density forests. The details pertaining to this are indicated by table-I.

Table -I

Orissa's population and forest profile.

Population of Orissa	Density of population per Sq. km. in Orissa	Total Forest area in Sq. km. in Orissa	Per capita Forest area in Hectares in Orissa
2,19,44,615 (1971 census)	141 (1971 census)	67,673.14 (1980)	0.31 (1980)
3,15,12,070 (1991 census)	203 (1991 census)	- 57183.57 (1990)	- 0.18 (1990)

Thus in 2 decades; the population of Orissa has risen by 9,567,455, while there has been a loss of 10490 Sq. km. of forest cover in one decade. As of 1990, the protested forests form a ridiculously small percentage of the forested area and the total geographical area which are 12.65% and 4.65% respectively.

The forest vegetation map of Orissa as released by the Forest Survey of India shows that most of the forest vegetation of Orissa form a strip of green in the middle of the state tapering towards southern Orissa. But there are discernible gaps in the districts of Nayagarh, Keonjhar, Phulbani, Koraput and Sundergarh which reflect a rapid loss of forest cover in the last 2 decades. A pathetic example is the district of Keonjhar which is full of blank spots on the forest vegetation map. Keonjhar is home to important mining regions like Bolani, Badabil and Joda, but that alone cannot explain the extent of deforestation. The details pertaining to the loss of forest cover in these districts are given in table-II.

* Friends Colony, Cuttack, Orissa.

Table -II**Extent of Loss of forest cover in some of the districts of Orissa.**

Name of the district	% age of total geographical area as forest	
	1980	1994
Phulbani	86.27	50.82
Keonjhar	49.41	30.04
Sundergarh	56.74	41.07
Koraput	51.82	32.89
Bolangir	23.95	16.53

These statistics substantiate the layman's perception of loss of greenery in the state as well as the frequent reports of forest fire, illegal tree felling and clashes between villagers and timber traders.

The famine stricken regions of the African continent namely Mali, Niger, Chad, Sudan, Ethiopia and Somalia are either already deserts or facing risk of desertification. Particularly in Sudan and Somalia; population pressure and soil erosion resulted in severe famines in the 1980s. The loss of tropical rain forests would threaten the lives of over one billion people in Africa, Latin America and Asia who would be left with waste land, dried up water resources and fewer options in life. The total degraded land as rendered by human beings in Asia and Africa stands at 746 million and 494 million hectares respectively (1996, world resources institute). The Thar desert, world's most populated desert is expanding over the Indo-Gangetic plain at a pace of 0.8 hectare per year. It cannot be mere coincidence that out of the three worst drought affected districts of Orissa; Bolangir and Koraput have lost extensive forest cover within the last 2 decades while in Kalahandi district a marginal rise in forest cover has been offset by a rise in population density from 98 to 135 persons per Sq. km.

The Center for Monitoring of Indian Economy (CMIE) listed Orissa as one of the priority states for attracting public and private investments in 1996. Orissa is heading more mining projects, power projects etc.; but it remains to be seen as to what would be the cost of development. The forest area released for non-forestry use in hectares from 1980 December to 1991 March in Orissa are shown in table-III.

Table - III

Non-forestry use of forest areas released from Dec. 1980 to Mar. 1991 in Orissa.
(in hectares)

Irrigation	-----	4906.494
Roads	-----	201.986
Mining	-----	1537.223
Railways	-----	901.530
Power transmission & pipe lines	-----	917.982
Others	-----	1179.562

The response of the chief minister of Arunachal Pradesh to the apex court's judgement in December 1996 regarding stopping of illegal felling of trees and all non-forestry activities especially the saw mills shows the difference in perception in the country towards development among various branches of government. (An expert committee is to be set up as per the directions of the supreme court to tackle the questions of the extent of sustainability and the problems of saw mills etc.) No doubt, as its chief minister insists, Arunachal Pradesh relies heavily on forests and the ban on the movement of timber from the 7 north-eastern states is a tough measure, but one cannot lose sight of the fact that a total of 783 sq. km. of forest cover has been lost from 1993 to 1995 in the north-eastern states.

The Central Government notification regarding environment impact assessment or EIA has introduced public hearing for EIA reports; but there is a world of difference between policy and its implementation. The practical problems of lack of adequate number of forest guards, shortage of wireless sets; vehicles and other necessities and the consequent loss of morale of forest officials facing armed poachers or timber traders remain substantially unaddressed. Even at the international level, precious little has been done since the 1992 Rio Convention. The recent Rio plus five summit has more to do with verbal duels than sustainable development. The 1994 desertification convention, as an effort to help over 900 million people who are battling against degradation of their fragile dry lands or even the convention on forestry are good on paper but weak as regards implementation.

That deforestation reduces the annual rainfall (apart from soil erosion leading to floods) is a truism. It is especially significant for Orissa as the principal crop grown in Orissa is rice which requires an annual rainfall of 125 cm. In Orissa the enormous pressure on forests is from the rural and tribal population, the livestock population as well as the middle class desire to own more land and houses. Sal and Teak, two representative trees of tropical deciduous forests in Orissa are very good timber for housing and furniture with bamboo, poor man's timber, not far behind. The human population living inside or on the fringes of a protected forest like Similipal and their changing lifestyles by contact with the outside world accelerates the process of deforestation or degradation of the forest which is supported by the fact that the sighting of wildlife is getting increasingly rare in Similipal over the last 2 decades. In Orissa, the frequent elephant raids or entries into villages from near by forests endangering life and property of villagers is another indication of the loss of their habitat. The State Government's announcement of 3 more elephant sanctuaries is welcome but again experience cautions against complacency as there is huge gap between policy on paper and resultant action. Loss of habitat means interference with traditional migratory routes, forced isolation in pockets of forests thus causing inbreeding and loss of gene pool and more difficulty in search for food and water holes by wildlife.

The Orissa Government is considering shifting of the villages within the Satkoshtia Sanctuary which have become a haven for poaching and illegal trees felling that threaten to decimate the 795 sq. km. area of the sanctuary. The rejuvenation of the Chandaka Sanctuary in the near denuded coastal Orissa is largely a government effort. But Chandaka wears the fresh look of a

second growth forest that is to say mostly replacement plantations. (Second growth forests also include coppice and other natural growths after fire damages, as would be in say. Indonesia after its current forest fire in 1997). However plantations and second growth forests are no substitute for natural forests.

Apart from forests, wetlands too are important for bio-diversity, as habitat for many endemic and rare species of flora and fauna, nutrient recovery, removing toxins, treating waste water and preventing siltation of rivers.

Orissa's pride Chilika lake, the wetland identified as of international importance by the Ramsar convention, supports over 100,000 fishermen most of whom live in dire poverty and deprivation, millions of migratory birds and various aquatic life forms. Chilika is imperilled by the huge siltation brought by Daya and Bhargvi rivers. The population surrounding Chilika lake and its nearby regions is expected to cross the 200,000 mark. The state government has sanctioned Rs. 4 crore 3 lakh for afforestation of the degraded forest and vegetation in the catchment areas of the rivers reaching the lake to prevent long term soil erosion and the consequent siltation. But a more significant announcement is the release of Rs. 1 crore for the socio-economic development of the people living around the lake, depending upon it for their survival. To check human pressure on forests and wetlands it is necessary to provide alternative and sustainable employment for forest-dependent people as emphasized by the 1992 Delhi Declaration of the first Ministerial Conference of Forestry Forum for Developing Countries (FFDC).

The number of cases of forest related offenses shot up from 32,315 in 1988-89 to 72,995 in 1992-93 in Orissa. The figures underline the fact that no government can replace such loss of forest cover on its own without the participation of its people. A good example of involvement in regeneration of forests with an attempt to maintain the variety, as well as nativity is in Kodaikannal where 'VOYCE' has involved the local people in regenerating the lost or degraded greenery. In this regard a word must be said about neem which provides moisture, purifies the atmosphere and prevents soil erosion and desertification.

The Green India Report (Green stands for Growth with Resource Enhancement of Environment and Nature) released by the Prime Minister in 1997 castigates the government for neglecting traditional water harvesting mechanisms; emphasizes that livestock grazing in the forests is 3 times the desirable level and calls for a mindset which views conservation as making the difference between life and death.

How does one explain the poor tribal or rural people who either own no land or unproductive land and whose living depends upon collecting firewood, selling wood or allowing livestock to graze in the forests? That save the forests and starve now or alternatively wipeout the forests and starve tomorrow as is happening now in Bolangir? Faced with grinding poverty and few choices; their means of livelihood is limited to the existing forests just as their doom is linked to the vanishing forests. The government should recognize the interests and voices of these local or

indigenous and voiceless people and ensure their effective participation in achieving sustainable development, who are driven by sheer need to destroy the forests just as it needs to check the profit seeking illegal timber traders. The former can be controlled by alternative sources of living, improvement in the standard of living, population control, agroforestry, intelligent use of traditional practices, knowledge, education and awareness. For the latter a change in the outlook of the society as regards owning more land, housing etc. is needed. Stringent enforcement of laws, policies, improving the lot of forest guards and officials and providing incentives to boost their sagging morale can help but ultimately it boils down to a change in perception to the society. A central government habitually apathetic or at least indifferent towards Orissa cannot be relied upon as the sole saviour due to its economic and political compulsions. It is also not possible to speculate as to what extent the state government can really execute its "announcements, decisions and considerations". In the meantime, the fate of the state of Orissa remains sealed in the fast depleting forest cover.

[Statistics pertaining to the state of Orissa, and north-eastern states obtained from reports of Orissa forests, 1990 and 1993 and Forests of Orissa, 1979 and the Forest report, 1996 by Forest Survey of India. (F.S.I.)]

STUDIES ON CLUSTER FORMATION BY SOME BATS IN BIHAR

By

Yadunath Prasad Sinha*

Many authors such as Bradbury (1977), Brosset (1962a, b), Dann & Wichers (1968), Dulic (1963), Gopalakrishna (1955), Mathew (1937), Sinha (in Press) etc. have mentioned about cluster formation by some bats in India and abroad. This habit is found generally in those bats which are gregarious in nature, living either in big or small colony. Here, studies have been made on the basis of field observations in Bihar during faunistic survey tours from 1977 to 1988 and from 1994 to 1997 on nine species of bats mentioned below :

(1) *Pteropus g. giganteus* (Brunnich), (2) *Rousettus l. leschenaulti* (Desmarest), (3) *Cynopterus s. sphinx* (Vahl), (4) *Rhinopoma h. hardwickei* Gray, (5) *Megaderma l. lyra* Geoffroy, (6) *Taphozous m. melanopogon* Temminck, (7) *Taphozous l. longimanus* Hardwicke, (8) *Rhinolophus l. lepidus* Blyth, (9) *Hipposideros fulvus pallidus* Anderson.

Dense colony of Indian Flying Fox (*Pteropus g. giganteus*) was seen at various places in Bihar on profused twiggy trees. In these colonies, some individuals were found together near each other maintaining small or big gap except on certain behavioural displays, like fighting, copulation etc. when they were in contact.

Dense colonies of short nosed Fruit Bat (*Cynopterus s. sphinx*) were also observed by the author at various places. But in the form of compact cluster it was observed on 12. xii. 1995 and 16. xii. 1995 under the surface of plantain leaf in Targachia village of Araria district and Lohadanga village of Kishanganj district respectively. Within cluster, individuals were found in deep slumber (may be facultative phase of torpor) sticking with each other.

A colony of about 500 examples of *Rousettus l. leschenaulti* was seen by me (Sinha, 1986) in the morning of 23. vii. 1979 in the semidark rooms of a discarded building in Padma, Hazaribagh district. In this colony, bats were seen in compact clusters of 15 to 20 individuals at different places. Sinha (in press) also observed this type of cluster formation of this species in Siju Cave in Meghalaya. In two other colonies found in Bihar, Sinha (1986) observed it in association with other bats but not in compact cluster.

In Bihar, big and small colonies (size : 50 to 1000 exs.) of *Rhinopoma h. hardwickei*, *Megaderma l. lyra* and *Taphozous m. melanopogon* were observed by me in ruined and discarded houses (Sinha, 1986). In the colony of these bats, individuals were found living either scattered or in compact clusters. It depends upon the size of space and size of colony. Even in scattered colony

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after approaching of intruder, all individuals were found fluttering fastly (may be due to fear), forming compact clusters at various places. In winter compact clusters of these species were also observed. In this season, individuals were found sluggish and some of them caught easily.

Compact cluster of two individuals of *Taphozous l. longimanus* was seen in winter (Sinha 1986). In rainy season, individuals were found either scattered or in clusters in an old church at Chaibasa (size of colony : 100 examples). Brosset (1962a) mentioned that if they are more than three or four individuals together, they form a compact cluster.

Only solitary bat of *Rhinolophus l. lepidus* was collected from ground room and shady well at Munger and Nawadah respectively in summer, Mathews (1937), Dulic (1963) and Daan and Wichers (1968) mention the tendency for hibernating adult *Rhinolophus* to roost solitary but Brosset (1962b) found this bat in isolated as well as in compact group.

As mentioned by Brosset (1962b), a group of about 100 *Hipposideros fulvus pallidus* was found in a cave in Bihar (Sinha 1986) hanging isolated. In this case, after our intrusion, most of the bats fled out side through opening of the cave.

Further, it can be concluded from above observations that cluster formation by bats in Bihar depends upon three factors :

(i) Size of colony and size of space, (ii) climatic conditions of the environment and (iii) communication (tactile cues).

ACKNOWLEDGEMENTS

The author is grateful to the Director, Zoological Survey of India, Calcutta for providing necessary facilities in connection with this study. He is also thankful to Sri R.B. Sharma, Photographer for photography.

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"SPOTS" ON THE PREMISES

by

Eric Stracey, IP (Rtd)*

This encounter took place in 1960 when I was Deputy Commandant of the Central Police Training College, Mt Abu. I did not know that "Spots" had been seen the night before, and it was only later that the Sub-Collector told me that, when motoring home for dinner from the Rajputana Club, he had come across his office daffadar standing petrified at the side of a lonely stretch of road, a panther sitting in full view only a few yards further down. He had pulled the speechless peon into his car, and, after seeing the animal slowly disappear into the nearby jungle, had deposited him at his house. He had thought no more about it, for a panther passing through our woody little hill-station, surrounded as it was by scrub-jungle, was not so very unusual.

The next day it was the college bugler, on his way to the guard-room to sound the early-morning Reveille, who first sighted "Spots" under a lantana bush that grew near the gate of my compound. (This gate was at the rear, as the house faced Nakki lake, giving us a lovely view). Hastening to the servants quarters by another entrance, he woke my bearer, who, in turn, hurried in to give me the news. It was much earlier than the usual bed-tea hour, and as I was still a little sleepy, I could not at first follow what he was trying to convey. But when I did understand what he was saying, I lost no time in calling my wife and two young sons to go and see if we could spot the animal. Then, armed for defence with a single-shot musket of doubtful power, we proceeded to investigate. Sure enough, crouched under the bush, was a splendid specimen of *felis pardus*, not just a scrawny village scavenger but a full-grown, magnificent beast of tawny yellow and black. Even if I had the right weapon, I would not have tried to shoot him where he lay, for I had never had the instincts of a shikari, and it would have been illegal, anyway, to have done so. My only impulse was to get him back to the jungle which was his real home.

But something was clearly wrong. Apart from moving his head and adjusting his position from time to time where he lay, he made no attempt to quit the bush. This was despite the chatter of a rapidly growing crowd of people, who, though they kept their distance, were making enough noise to wake the dead. I did think I noticed something odd about one of his eyes, but was too absorbed by his presence and that of the crowd to investigate closer. I was anxious only to get him moving, and in the absence of any local forest officer or game warden, we clapped and chivvied him and tossed the odd pebble his way until at last he stirred. It was when he started to walk slowly up our drive towards the front of the house that I realised I was missing a splendid opportunity of getting a movie picture of him. I dashed inside to get my camera, and emerged only in time to see him cross the lawn, pause for a moment near a bed of flowers, and then disappear with a graceful plunge down a ten-foot revetment that here held up our front garden. We hurried to the edge, but could not see him for the heavy growth of shrubs that grew near by. And I had not got so much as a single frame of him with my camera!

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Only an occasional stir of the bushes now indicated the path of his progress, but I deemed it too risky to allow anyone to follow him, even though he had shown no signs of aggression so far. So posting two orderlies at vantage points to keep track of it as best they could from the movement of the foliage, and sending word to the forest officer concerned, whose headquarters were down on the plains, and to the local Deputy Superintendent to keep the crowd at a distance, I went in to get ready for the day. It was while I was dressing that he was sighted again, this time moving somewhat aimlessly near the outhouses of the hospital next door. My fourteen year old son had the camera by then, and covered by an orderly with the musket, he got close enough to take a series of coloured shots that are the best in my collection. Seen there, the panther appears a picture of sinuous grace, moving slowly in an open space near the outhouses, all of which had been cleared by then, and even pausing to sniff at one of the doors. But aimless and sluggish seems the best description of him at that stage, for the movie shows him clearly ill at ease and uncertain where to go.

I myself missed seeing him then, for he had moved off again into denser undergrowth by the time I came out. But the crowd had swelled by then, for it was October, the time of Abu's "second season" which attracted many visitors from the plains. Fearing for their safety, but still anxious to get the animal back to the jungle proper, I entrusted to the care of the police both the animal and the crowd, now perched on every rock, tree and other vantage point. I then sent my two sons off to school while I myself left for office. I should, of course, have put aside all thought of school and work on such an occasion, for a panther moving about within a small town in the full light of day was something one could expect to experience only once in a lifetime. Besides, even if the animal was hidden from sight for most of the time, it would have emerged sooner or later, as indeed it did.

Harried by some of the bolder members of the crowd who had located its general position and approached it with stones, spears and even hockey sticks, it finally made its way to a point beyond the lake. Here it chose another bush by the side of the road, and lay down with only its head visible. By now it was clear that something was very wrong with it, for I was later told that it either would not or could not move far. It appeared to have lost all aggressive instincts and even that of self-preservation, and seemed to want nothing more than to be left alone. Some in the crowd thought it was blind; others that it had been bitten by a snake and was dying; still others opined that it was looking for a place to whelp, though a panther about to have cubs could hardly have been expected to come into a town and behave in such a passive manner.

Whatever the cause of its behaviour, it was nearly noon when the Deputy Superintendent sent word to me and the Sub-Collector that the crowd was becoming unmanageable, that some among the crowd had got so close to the animal as to prod it with long sticks, and that it had twice been stirred enough to make as though to attack. He said it refused to be driven further back towards the jungle, and feared if things went on like this, someone would be mauled. He therefore suggested that he be allowed to finish it off. There was still no sign of any forest officer or wildlife warden,

and I remained keen on saving it if it was at all possible. So picking up the Sub-Collector in my car, we drove to the spot and parked within twenty feet of the beast. Its head and neck were clearly visible, resting on a stone just beyond the margin of the road, its body merging with surrounding undergrowth. We tried all we could to stir him, but without success. Yet the crowd was growing and becoming bolder and difficult to control. We could not provide an armed guard indefinitely around the animal, and could not say when he would recover sufficiently to launch out at those around him. Someone could possibly be savaged, or perhaps injured by the flying bullet of some policeman trying to prevent further harm.

But it was less these considerations than something we noticed for the first time, now that we were close enough. He had a fearfully festering and sightless left eye, and from this, one could guess what was amiss. He was suffering from acute sepsis which had probably poisoned his whole system. His semi-comatose condition confirmed this, and his apparently aimless wandering had been, in fact, no more than looking for a place to die. Despite my earnest wish, there now seemed no chance of returning him to his jungle home, and since he was obviously dying, and beyond medical help even if we had a tranquillising bullet and gun, we agreed that it would be advisable on all counts to hasten his departure. At a range of ten paces I gave him a single shot in the neck, and felt sickened as his head jerked forward in death.

GYPSY (A PET HOG DEER)

By

Kr. Atul Raj Singh*

It was a dream come true. My brother broke the news about a new member amongst our pets, a hog deer fawn. My fulness of heart knew no bounds. I wanted to be next to him the very moment but could not do so, for I was in school at Mussoorie. I had have to wait till the vacations.

Every spare moment of mine was spent in dreaming about the fawn. I had even named him - Gypsy. The nomadic vagabond or the vehicle, I do not know which one suited the best, most probably both the word allured me. Letters to home were drenched with enquiries about him, rather than the well being of the family or my schooling.

He was a month old at the time he was presented to us by the forest official who had in turn seized him from a villager in the district. They knew for sure that the dainty creature had better chances of survival with us.

When I reached home in the vacations Gypsy had grown by 4 months. On landing, the first thing I did was to head straight for his pen, knowing exactly its whereabouts. On seeing a frantic child heading for him, the deer broke wild. Dashing about the pen retreading his foot steps a countless times, eventually settling down at a corner near the hay stack. I was filled with excitement, the thumping of my heart could be seen - same as his with fear. Reaching the corner I slowly squatted next to him and placed the palm of my hand on his cute little head. He trembled. An old trick of the trade of gently scratching behind the ear simmered him down. And soon we were friends. I picked up some grass and offered to him. At first he was reluctant but in a moment he got going.

His lovely shining coat dotted with white spots all over looked very beautiful. His cute tiny head with round ears, always on the move picking up sounds of various intensities and sharp little hooves on which he danced and leaped about the place on seeing a stranger approaching was a delightful scene. No doubt he was the most handsome of creatures in the world of pets.

Gypsy would be tied up in the afternoon under a shady tree in the compound of the Havelli. But rest of the time it was let loose. I would either be next to him or doing things to make his pen a bit more comfortable. At night I often crept up to see what he was upto. And within seconds he would be next to me. A gentle scratch behind the ear (of which he was very fond of) or a Chapati for him was always there.

Bhollu, the Labrador had become a close friend of him. Both would at times be seen standing face to face, touching each others nose. Bhollu disliked to see him being pampered and he would at once come into picture, often growling or literally pushing him aside.

Within 8 months Gypsy had fully grown. The white spots had disappeared and his coat started tanning. Two little pegs about an inch long had grown on his head from which antlers would sprout. This was the cause of a little worry as we knew the antlers would surely be a nuisance and definitely hurting some one some day. Now Gypsy would spend better half of the day rubbing his sprouting pegs against the trunk of the tree or against my legs if I happened to be near by, which I usually was. In the process he would get into a bout with me. His energy and strength was tremendous and unseemingly tiresome. Though he was free to roam about the house, alighting the staircase and ballet dancing on the mosaic floor but never went outside the main gate.

In the summer months we sleep outside in the open with mosquito nets on. Lying on bed, gazing at the stars and listening to the fading sounds coming from distant village untill there is complete silence. Only an occasional lapping call could be heard, perhaps that of a jaikal or a cat. The tranquility of the surroundings vanished all of a sudden by a loud bark of the village dogs. There was pandemonium. The whole village once again came to life. Villagers were shouting and screaming running about the places pell-mell, followed by dogs. The thing I always feared had happened. Gypsy had ventured out.

Gypsy was in the grip of village dogs. He treated the pie dogs the same way as Bhollu and was badly mauled by them. He ran for his life and luckily got into a hut, from where it was retrieved back to Havelli. Gypsy was badly bleeding and was frightened with the very presence of men. But it was amazing how it responded to my call. My very presence calmed him down and Gypsy was his old self again. I bandaged him and force fed him a strong dose of Haldi, milk plus a sedative. The whole night I could not sleep. Gypsy was in my consciousness all the time. He laid on his hay stack with uneasy calm, getting up once to show his gratitude by licking my face.

The following day the doctor paid him a visit. Gypsy recovered amazingly fast. The lesson was brought home that the gate and beyond was forbidden territory for him. He dared not venture out again.

Gypsy had a wonderful instinct for tracing me out. We often played the game of hide and seek. It was during this game that I heard him call for the first time. He was unable to find me for some unknown reason. I had hidden myself behind a cupboard. At that juncture he called in a low mourning sound. I kept watching him and he repeated the call thrice. Keeping an eye on his movements, I came out and the very moment he was by my side. I rewarded him with a pinch of salt to lick which he relished.

In a near by village a carpenter had a female hog deer, named Jullie. She was senior to our boy. On learning that we have a male hog deer, he offered her to us. Jullie had all the liking for

comforts. She would not sit on the ground and preferred well cushioned beds. Gypsy averse to accompanying her to the bed would stand next to her as if attending on her majesty. The lady would accompany us to meals and unless given a chapati she would not leave. The pampered lady had spoiled our boy too. Both of them seemed to be a happy couple.

Until one day Gypsy committed the same old mistake of crossing over the forbidden territory. He followed his girl friend to the village premises and while the lady successfully dodged the village dogs, poor Gypsy was killed in the melee. Jullie, the female hog deer was well conversant with the criss-cross routes of the village and her knowledge and experience saved her life. More over her agility and speed was unrivalled by her enemies. She survived to die an old age death. But Gypsy and Jullie will always live in my memory.

Keeping wild animals as pets is now banned. But wild animals as pets inspire people to develop a bond of love and affection for wildlife. They provide ample opportunity to wildlife lovers to know about the habits and behaviour of wild animals.

- Editor.

तेंदुआ

रामेश बेदी*

प्रतापी, ओजस्वी और शक्तिशाली

अथर्ववेद में सौभाग्य देने वाली देवी से प्रार्थना की गई है कि सिंह, व्याघ्र और द्वीपी (तेंदुआ) के जैसे प्रताप और शक्ति से हमें सम्पन्न करें :

सिंह व्याघ्रे उत या पृदाकौ त्विषि एनौ ब्राह्मणे सूर्ये या ।
इन्द्रं या देवी सुभगा जजान सा न ऐतु वर्चसा संविदाना ॥
या हस्तिनि द्वीपिनि या हिरण्ये त्विषिरप्सु गोषु या पुरुषेषु ।

अथर्ववेद, 6, 38; 1-2.

राज्याभिषेक के समारोह में पुरोहित राजा को व्याघ्र, सिंह और द्वीपी के समान मजबूत और पराक्रमी बनने का आशीर्वाद देता था। आशीश वचनों के साथ वह राजा के ऊपर जो जल छिड़कता था उसे वह व्याघ्र, सिंह और द्वीपी की शक्तियों से सम्पूक्त बताते हुए सौभाग्य की देवी से प्रार्थना करता था कि यह राजा के लिए बहुत कल्याणकारी हो :

एजा व्याघ्रं परिष्वजानाः सिंहं हिन्वन्ति महते सौभगाय ।
समुद्रं न सुभुवस्तस्थिवांसं यमृज्यन्ते द्वीपिनम प्स्वन्तः॥

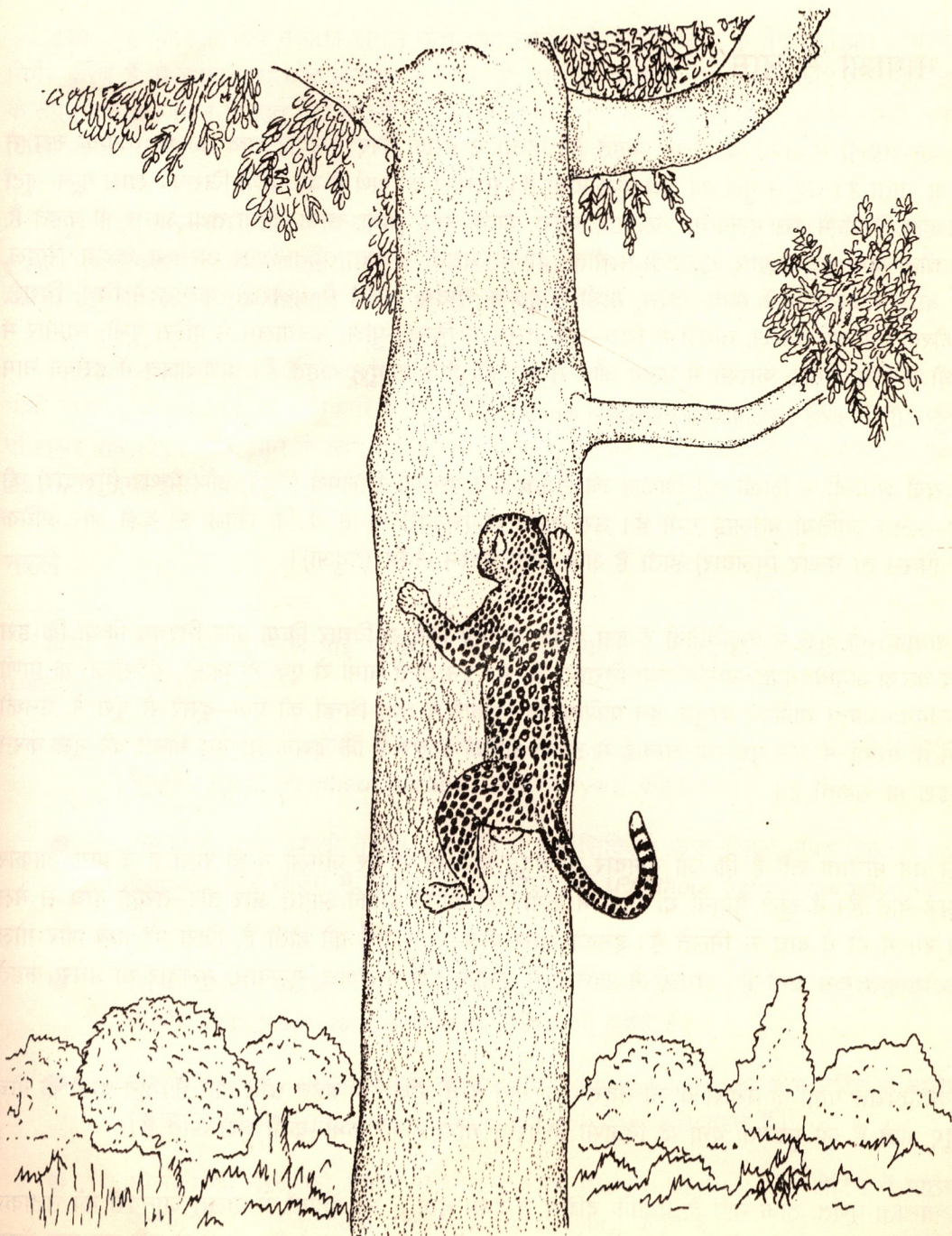
अथर्ववेद, 4, 8; 7.

इन उल्लेखों से स्पष्ट है कि वैदिक काल में तेंदुआ को सिंह और शेर के समान ही प्रतापी, ताकतवर और ओजस्वी माना जाता था। ये तीनों जानवर रात्रि में अधिक सक्रिय और शक्तिशाली होते थे :

सिंहस्य रात्र्युशती पीषस्य व्याघ्रस्य द्वीपिनो वर्च आददे ।
अश्वस्य ब्रध्नं पुरुषस्य मायुं पुरुरुपाणि कृणुषे विभाती ॥

अथर्ववेद, 19, 49; 4.

सिंह और शेर की तुलना में तेंदुआ छोटा जानवर है। यदि एक ही आकार के शेर और तेंदुआ में मुकाबला हो तो ताकत में यह शेर की बराबरी करेगा। इसके अलावा यह शेर से अधिक चुस्त, चालबाज, धूर्त व कूटनीतिज्ञ जीव है। शेर की निसबत यह अधिक चुपके से और अधिक चोरी से काम करता है। उससे यह बेहतर तरीके से ढलानों, पहाड़ों, मकानों और पेड़ों पर चढ़ सकता है, बेहतर कूद सकता है और बेहतर मार कर सकता है। यह अपने को प्रायः कहीं भी छिपा सकता है। अनुभवी शिकारियों का यह कहना बिल्कुल ठीक है कि शेर यदि सेर है तो तेंदुआ सवा सेर।



चित्र 1 तेंदुआ पेड़ों पर आसानी से चढ़ सकता है

शेर की अपेक्षा तेंदुआ निश्चित रूप से अधिक खतरनाक है। इसके पंजे भी अपेक्षाकृत अधिक गन्दे रहते हैं। नखरों के नीचे खोखले में भरा जहरीला पदार्थ जख्मों में चला जाता है जिससे खून जहरीला हो जाता है।

विविध भाषाओं में नाम

तेंदुए को अंग्रेजी में लेपर्ड या पैन्थर कहते हैं। हिन्दी में इसके लिए गुलदार शब्द का भी व्यापक रूप से प्रयोग किया जाता है। उर्दू में गुल का अर्थ फूल होता है। गुलदार का अर्थ है वह प्राणी जिसकी खाल फूल-बूटों से चित्रित हो। हिन्दी में इसे गुलबाघ, गोलबाघ, बघेरा, चीता-बाघ, चीता, सोना-चीता तथा अघ्नर भी कहते हैं; बंगाली में चीता बाघ, तेंदुआ बाघ; गुजराती में चीता, दीपड़ो; मराठी में चीता, चीता-बाघ, अस्नेआ, करडा, सिंहल, विषलिया, बाघ; राजस्थानी में चीता, बघेरा; गोंडी में बुर्कल, गोर्दम; कच्छी में अध्वेसरो; कन्नड़ में चिर्चु, चिराते, सिवंगि, कीरवा, होनिग, केर्कल; तमिल में चिरु-थई; तेलुगु में चिन्ना-पुलि; मलयालम में पुल्सि पूली; म्यांमार में थिट; अरबी में निम्र, नमीर; फारसी में पलंग और संस्कृत में द्वीपी, शार्दूल कहते हैं। प्राणीशास्त्र में इसका नाम पांतेरा पार्दुस (लिनिअस) [*Panthera pardus* (Linnaeus)] है।

उन्नीसवीं शताब्दी में लिखी गई शिकार की रोमांचकारी पुस्तकों में लेपर्ड (तेंदुए) और पैन्थर (गुलदार) की दो अलग-अलग जातियाँ बतलाई गयी हैं। उस समय के शिकारी मानते थे कि लेपर्ड की बड़ी और अधिक ताकतवर किस्म तो पैन्थर (गुलदार) होती है और छोटी किस्म लेपर्ड (तेंदुआ)।

इस शताब्दी के शुरु में प्रकृतिविदों ने इस मसले पर नए सिरे से विचार किया और निश्चय किया कि इस प्रकार भेद करना अयुक्तियुक्त, भ्रामक तथा निराधार है और इन दोनों नामों से एक ही जाति (स्पीसीज) के प्राणी को ग्रहण किया जाना चाहिए। वस्तुतः इन प्राणियों के आकार में तथा चिन्हों की एक-दूसरे से दूरी में, उनकी बनावट में व संख्या में और पूंछ की लम्बाई में इतना अधिक अन्तर है कि इसके दो भेद मानने की भूल करने की गुंजाइश हो सकती है।

पहले यह मान्यता रही है कि जो गुलदार या तेंदुए बस्तियों से दूर जंगलों में ही रहते हैं वे प्रायः आकार में कुछ बड़े होते हैं। वे खुले मैदानों या गांवों में कभी नहीं आते। इनकी आदतें और तौर-तरीके बाघ से मेल खाते हैं। रंग में भी ये बाघ से मिलते हैं। इनकी खाल पीले-लाल वर्ण की होती है, जिस पर धब्बे और गोल निशान अपेक्षाकृत कम रहते हैं। जंगलों में रहने वाले कबीले इसे गोलबाघ, गुलबाघ, गुलदार या बघेरा कहते हैं।

इसके विपरीत गांवों के पड़ोस में जो तेंदुए पाए जाते हैं वे आकार में बहुत छोटे होते हैं। इन दोनों के बीच में वे तेंदुए आते हैं जो मुख्यतः वनों के निवासी हैं परन्तु गांवों में भी कभी-कभी चले आते हैं।

यह मान्यता पूर्णतः ठीक नहीं है, क्योंकि दक्षिण में देखा गया है कि देहातों से पालतू जानवरों को उठाकर अपना भोजन बनाने वाले तेंदुओं में सबसे बड़े आकार वाले तेंदुए भी पाए जाते हैं। गोली से मारे गए एक तेंदुए

का वज़न 72.4 किलोग्राम था और नाप 230 सेंटीमीटर। इसका आमाशय खाली था। गोली खाने से पहले यदि इसे पेट भरने का मौका मिल जाता तो इसका वजन 81 किलोग्राम से कम न बैठता।

इसी तरह, कारवार क्षेत्र में जहां जंगल ऊँचे तथा खासे घने हैं और जहां के तेंदुए मुख्यतः जंगली जीवों पर निर्भर करते हैं, वे सामान्यतः छोटे आकार वाले ही रह जाते हैं। सच्चाई यह है कि छोटे और बड़े दोनों किस्म के तेंदुए एक ही जंगल में रहते देखे गए हैं। हाँ, ऐसा लगता है कि दोनों किस्में अपना जीवन—संगी अपनी—अपनी किस्म से ही चुनते हैं।

कुछ तेंदुए ढोर—डंगर और अन्य पालतू जानवरों से ही मुख्यतः अपना पेट भरते हैं। ऐसे तेंदुओं को पशु चोर (cattle lifter) कहते हैं। चमोली तहसील (गढ़वाल—हिमालय) के छिनका गाँव में फरवरी 1979 में एक मादा तेंदुआ पकड़ी गई थी जिसने एक पखवाड़े में 30 से अधिक मवेशियों की जान ले ली थी।

विशाखापत्तनम् के पास श्रीकृष्णापुरम् गांव में एक तेंदुए ने दो बरस में लगभग 30 मवेशी मारे थे। इन्दिरा गांधी जुआँलोजिकल पार्क के अधिकारियों ने उसे पकड़ने के लिए एक पिंजरा रख दिया जिसमें चारे के लिए दो सूअर बांध दिए। उन्हें खाने के लिए तेंदुआ 16 अगस्त, 1979 को सीधा पिंजरे में घुस गया और पकड़ा गया। 2.5 मीटर लम्बे इस तेंदुए को जुआँलोजिकल पार्क में रख दिया गया।

नस्लें

विश्व में तेंदुए की 14 नस्लें पाई जाती हैं। भारतीय उपमहाद्वीप में इसकी निम्नलिखित चार उपजातियाँ (subspecies) मिलती हैं :

- भारतीय तेंदुआ : अंग्रेज़ी में इसे इण्डियन लेपर्ड (Indian leopard) और लेटिन में पांतेरा पार्दुस फुस्का (मेयर) [*Panthera pardus fusca* (Meyer)] कहते हैं।
- सिक्किमी तथा नेपाली तेंदुआ : अंग्रेज़ी में इसे सिक्किम एण्ड नेपाल लेपर्ड (Sikkim and Nepal leopard) और लेटिन में पांतेरा पार्दुस पेर्निग्रा (ग्रे) [*Panthera pardus pernigra* (Gray)] कहते हैं।
- सिन्धी तेंदुआ : अंग्रेज़ी में इसे सिन्द लेपर्ड (Sind leopard) और लेटिन में पांतेरा पार्दुस सिन्दिका पोकोक [*Panthera pardus sindica* (Pocock)] कहते हैं।
- कश्मीरी तेंदुआ : अंग्रेज़ी में इसे कश्मीर लेपर्ड (Kashmir leopard) और लेटिन में पांतेरा पार्दुस मिल्लार्दि पोकोक [*Panthera pardus millardi* (Pocock)] कहते हैं।
- श्रीलंका की नस्ल को अंग्रेज़ी में सीलोन लेपर्ड (Ceylon leopard) और लेटिन में पांतेरा पार्दुस फुस्का (मेयर) [*Panthera pardus fusca* (Meyer)] कहते हैं।

- आमूर तेंदुआ : अंग्रेजी में इसे आमूर लेपर्ड (Amur leopard) और लेटिन में पांतेरा पार्दुस ओरिएंटालिस (*Panthera pardus orientalis*) कहते हैं।
- मध्य फारस का तेंदुआ : अंग्रेजी में इसे सेंट्रल पर्शियन लेपर्ड (Central Persian leopard) और लेटिन में पांतेरा पार्दुस दातेरि (*Panthera pardus datheri*) कहते हैं।
- उत्तरी पर्शिया का तेंदुआ : अंग्रेजी में इसे नॉर्थ पर्शियन लेपर्ड (North Persian leopard) और लेटिन में पांतेरा पार्दुस साक्सिकोलोर (*Panthera pardus saxicolor*) कहते हैं।
- जावा का तेंदुआ : अंग्रेजी में इसे जावान लेपर्ड (Javan leopard) और लेटिन में पांतेरा पार्दुस एस्क्लास (*Panthera pardus esclasi*) कहते हैं।
- श्याम (melanistic form) : काला तेंदुआ, यह जावा के तेंदुए की श्याम रंग की किस्म है।
- पश्चिमी अफ्रीका का तेंदुआ : इसे अंग्रेजी में वेस्ट अफ्रीकन लेपर्ड (West African leopard) और लेटिन में पांतेरा पार्दुस विचेनोमी (*Panthera pardus wichenomii*) कहते हैं।
- एरिट्रिया का तेंदुआ : अंग्रेजी में इसे एरिट्रियन लेपर्ड (Eritrean leopard) और लेटिन में पांतेरा पार्दुस आंतिनोरिई (*Panthera pardus antinorii*) कहते हैं।

भार, लम्बाई, कद

गोरे शिकारियों ने अफ्रीकी तेंदुए का भार 90 किलोग्राम लिखा है। भारतीय तेंदुए का भार इतना नहीं होता। अफ्रीकी और भारतीय तेंदुए एक सदृश ही हैं और एक ही जाति के प्राणी हैं। इनका आकार भी एक ही होता है। इनके चिन्हों में ज़रा-सा अन्तर होता है जिससे इन दो भौगोलिक नस्लों (रेस) में भेद किया जाता है। सबसे बड़े भारतीय तेंदुए 73 और 80 किलोग्राम के बीच में तोले गए हैं। मादा का भार 27 और 40 किलोग्राम के बीच होता है। सबसे छोटे युवा तेंदुए का वज़न लगभग 27 किलोग्राम होता है। खड़े हुए तेंदुए की कन्धे पर ऊँचाई 60 सेंटीमीटर होती है।

तेंदुए की औसत लम्बाई 215 सेंटीमीटर होती है। मादा की लम्बाई करीब 30 सेंटीमीटर कम होती है। असाधारण रूप से बड़े नर 245 सेंटीमीटर तक हो जाते हैं। 23 मार्च, 1939 को मध्य प्रदेश के जंगलों में राजकुंवर यशोधर सिंह ने एक तेंदुए को मारा था, खूंटियों के बीच में यह 260 सेंटीमीटर नापा गया था। तेंदुए के सारे शरीर पर काले चटाक पड़े होते हैं जो सिर पर अधिक स्पष्ट दिखते हैं। अंगों के बाहरी भाग तथा पीठ पर बहुत अधिक चटाक पड़े रहते हैं। पेट आमतौर पर सफ़ेद होता है।

आमदेश गांव, मध्य प्रदेश में 18-19 दिसम्बर, 1939 की रात को रामसे ब्राउन ने एक तेंदुआ मारा था जिसकी पूंछ नहीं थी। ध्यान से परीक्षा करने पर पता चला कि पूंछ उगी ही नहीं थी। तेंदुए की पूंछ में 23 या 24 हड्डियाँ होती हैं।

तेज नखर

पंजों के नीचे मोटी गड़ियाँ रहती हैं। अगले और पिछले पैरों से क्रमशः पाँच-पाँच और चार-चार तीक्ष्ण नखर होते हैं। बम्बई की नेचुरल हिस्ट्री सोसाइटी के जर्नल में कम-से-कम तीन उदाहरण तो ऐसे रिकार्ड किए गए हैं जिनमें तेंदुओं के 20 नाखून गिने गए हैं। सामान्य अवस्था में ये आवरण के अन्दर छिपे रहते हैं। शिकार के समय तेंदुआ इन्हें बाहर निकाल लेता है। प्रकृति ने यह व्यवस्था न की होती और नखर सदा बाहर रहते तो चलते समय जमीन पर रगड़ खाकर घिस जाते और शिकार के काबिल न रहते। अंगूठे वाला नखर कुछ काम नहीं करता और अप्रयोग से पतला रह जाता है। तेंदुआ इस तरीके से चलता है कि पिछले पैर अगले पैरों द्वारा बने पदचिन्हों पर पड़ते हैं जिससे इसकी पैर में दो पदचिन्हों की पंक्ति नज़र आती है। बड़े तेंदुए के पदचिन्ह वयस्क सिंह के पदचिन्ह के बराबर होते हैं।

कहाँ पाया जाता है?

तेंदुए का मूल निवास स्थान साइबेरिया माना जाता है। उन दिनों वह आज जैसा ठण्डा नहीं था। वहां से यह एशिया और अफ्रीका में फैलता गया। अफ्रीका में रेगिस्तानी क्षेत्रों को छोड़कर, यह व्यापक रूप से सर्वत्र पाया जाता है। सहारा को छोड़कर यह एशिया महाद्वीप में सभी जगह मिलता है। तिब्बत के पठार में यह नहीं मिलता। प्रकृतिविदों ने भूले-भटके कुछ तेंदुए वहां कभी-कभी देखे हैं जो अपवाद ही समझे जाने चाहिए। अण्डमान, बाली व उसके पूर्ववर्ती द्वीपों में मालागासी गणराज्य (मेडागास्कर में) और सहारा में अब तेंदुए नहीं बचे। अपने मूल स्थान साइबेरिया में भी इसकी नस्ल समाप्त हो चुकी है। कुछ वर्ष पूर्व किलिमंजारो पर्वत पर समुद्र तल से 5,182 मीटर की ऊंचाई पर एक तेंदुए की लाश मिली थी। प्रकृतिविदों के लिए यह एक रहस्य था कि इतनी ऊंचाई पर सर्वथा विषम परिस्थितियों में यह कैसे निर्वाह करता था। रूस के काकेशस क्षेत्र को छोड़कर किसी भी यूरोपीय देश में तेंदुए नहीं पाए जाते। आस्ट्रेलिया और न्यूजीलैण्ड में यह नहीं मिलता। यूरोप में जहां-तहां इसके प्रस्तरीभूत अवशेष मिले हैं। इनसे प्रमाणित होता है कि किसी समय मध्य और दक्षिण यूरोप में इसका अस्तित्व था। अमेरिका महाद्वीप में तेंदुए का प्रतिनिधित्व कच्छ-तेंदुआ (जैगुआर) करता है जो इससे बहुत अधिक मिलता है।

अण्डमान-निकोबार द्वीपों में तेंदुए और चीतल हिरण नहीं पाए जाते थे। मुख्य भूमि से इन द्वीपों के जंगलों में 1950 में कुछ चीतल संप्रविष्ट किए गए। इन्हें मारने वाला कोई हिसंक जानवर द्वीप में नहीं था, इसलिए तेजी से इनकी संख्या बढ़ती गई। द्वीप में चीतल संरक्षित हिरण है।

चीतल के झुण्डों ने जंगलों के छोटे पौधे खा डाले। वे खेतों पर धावा बोलने लगे। उनकी संख्या को नियंत्रित करने के लिए 1952 में दो मादा तेंदुए द्वीप में छोड़ दिए। जोड़ा इसलिए नहीं छोड़ा कि उनकी सन्तति भी इतनी बढ़ जाएगी कि सभी चीतलों को खा जाएगी। द्वीप के दोनों तेंदुओं का कुछ पता नहीं चला कि वे कहाँ गए? समझा जाता है कि वे जंगलों में ही मर-खप गए।

प्राकृतिक आवास

यह ऐसी जगहों में रहना पसन्द करता है जो या तो चट्टानों से व्याप्त हो या जहां झाड़-झंखाड़ उगे हों, जिससे छुपने के लिए उसे गुफाएं और झाड़ियां मिल जाएं। चित्रित खाल के कारण यह झाड़ियों में आसानी से नहीं दिखाई देता। वैसे, प्रकृति में यह घने वनों में, क्षुद्ररोहों में, नालों से व्याप्त भूमियों में, पहाड़ी प्रदेशों में — सभी जगह रहता है। ऊँची टेकरियों में इसे रहने में लाभ यह है कि वहां से चारों ओर के इलाके पर निगाह रख सकता है।

पानी से इसका लगाव नहीं है। गरमियों में भी यह जलाशयों से दूर रहता है। जरूरत पड़ जाए तो यह सरलता से तैर लेता है।

घरों में पनाह

बहराइच के वन-विश्रामगृह के स्टोर रूम को एक तेंदुए ने अपना निवास बना लिया था। सारी बरसात विश्रामगृह में कोई नहीं रहता था। उन दिनों यह दिन भर कोठरी के अन्दर पड़ा सोता रहता था। केवल शाम को शिकार की खोज में बाहर निकलता था। उसे वह कोठरी इतनी पसन्द आई कि बरसात खत्म हो जाने पर भी उसने खाली नहीं की। एस.एन. खान नामक जंगलात के एक अफसर एक सांझ वहां ठहरे। चौकीदार ने उन्हें तेंदुए के उस कोठरी के प्रति मोह का किस्सा बता दिया। खान ने इस पर अविश्वास करते हुए बात को मजाक में टाल दिया। सुबह खान के उठने से पहले ही तेंदुआ रात का दौरा खत्म करके कोठरी में जा सोया। अगले दिन खान और रेंजर कोठरी की जांच करने लगे। टूटे-फूटे सामान के पीछे वह मीठी नींद में डूबा पड़ा था। इन लोगों के अनाधिकृत दखल पर वह उठा और दोनों पर लपका। इन्हें भगाकर वह फिर अपने कमरे में जा लेटा। उसे इस बात पर आपत्ति नहीं थी कि रेस्ट हाउस में कोई न ठहरे, वह तो इतना ही चाहता था कि उसके कमरे में कोई दखल न दे।

जंगलात का सीजन शुरू हो चुका था। तेंदुए को और अधिक समय के लिए वहां रहने की इजाजत देना सम्भव न था। आस-पास के सभी आदमी इकट्ठा किए गए। खाली कनस्तारों व बरतनों को पीटकर, बांस की खपचियों व टहनियों को जमीन पर पटककर खूब शोर मचाया गया और तेंदुए को आतंकित करने की कोशिश की गई। मजदूर खूब होहल्ला कर रहे थे और पथरों की बौछार से उसके मनोबल को गिराने की चेष्टा कर रहे थे। आखिर वह भाग खड़ा हुआ और जंगल से पुनः इस कोठरी में नहीं आया। उसके लेटने की जगह का सावधानी से निरीक्षण करने पर पता चला कि वह जख्मी था और घाव पर आने वाली मक्खियों से बचने के लिए उसने वहां शरण ली थी। शायद सेही के कांटे के चुभने से यह घाव बना था।

जयपुर से लगभग 11 किलोमीटर दूर जगतपुर रेलवे स्टेशन के निकट, एक बंगले में रेलवे अधिकारी बी. एस. नाग ठहरे हुए थे। पाँच अप्रैल, 1969 की प्रातः उनकी एक बिना बुलाए मेहमान से अप्रत्याशित मुलाकात हो गई। बंगले की रसोई में आले के नीचे उन्होंने एक चितकबरी पूँछ देखी। आले के नीचे अपेक्षाकृत अन्धेरा था इसलिए उसमें बैठे हुए जीव पर उनकी निगाह नहीं पड़ी। पूँछ ने उनकी उत्सुकता बढ़ा दी। सावधानी से

उन्होंने दुबारा आले के नीचे आंखों से टटोला तो वहां एक तेंदुआ को बैठा हुआ पाया। उन्होंने तुरन्त रसोई के दरवाजे की कुण्डी चढ़ाकर ताला लगा दिया। मेहमान से निपटने के लिए उन्होंने पुलिस और वन विभाग के अधिकारियों के दरवाजे खटखटाए। डिविज़नल फ़ौरेस्ट ऑफ़िसर और कन्जर्वेटर ऑफ़ फ़ौरेस्ट के पिंजरा लेकर पहुंचने से पहले पुलिस सुपरिण्टेण्डेंट बंगले पर पहुंच गए थे। उन्होंने 303 की राइफल से दो गोलियां चलाकर तेंदुआ को मार डाला। यह मादा तेंदुआ थी। ग्रामीणों का कहना था कि वह सागानेर हवाई अड्डे के निकट के घने जंगल से निकल आई थी। इस बंगले में शरण लेने से पहले उसी सुबह बड़े-सवरे अन्धेरे में वह साइडिंग की एक ट्रेन के नीचे छिपी बैठी थी। पिछले दिनों आस-पास के गांवों में एक तेंदुआ अक्सर बन्दरों को पकड़ते हुए देखा गया था। देहातियों का ख्याल था कि यह वही है।

महाराष्ट्र के रायगढ़ जिले में अलीबाग के नजदीक खनऊ गांव के पड़ोस के जंगल से एक तेंदुआ आया और एक घर के खुले दरवाजे से अन्दर घुस गया। एक साहसी जवान ने किवाड़ बन्द कर बाहर से सांकल मार दी। उसे जिन्दा पकड़ने के लिए पुलिस पार्टी और जंगल के अफसर आ गए। यह तो पता नहीं कि जंगल में किस बात से परेशान होकर वह छोटे-से घर में पनाह लेने आया था। उसका इरादा आदमी का शिकार करना नहीं था। अपने आराम में दखल देने वाले लोगों से वह चिढ़ गया। उसे पकड़ने की जितनी कोशिशें की जातीं वह उतना ही प्रतिरोध करता और जबर्दस्त हमला करता। उत्तेजना और तनावपूर्ण के दस घंटों की जद्दोजेहद में भी वह पकड़ा नहीं जा सका। दिन भर के खतरनाक ड्रामे के अन्त में उसे गोली मारकर शान्त कर दिया गया। मरने से पहले उसने 16 आदमियों को जख्मी कर दिया था।

घिरा हुआ तेंदुआ कितना दिलेर और खतरनाक हो जाता है, इसका एक और उदाहरण देखिए। ढाका (बांग्लादेश) के करीब 300 किलोमीटर दूर उत्तरी नीलफायरी जिले के लक्ष्मीचन्द गांव में एक तेंदुआ आ गया। गांव वालों ने उसे घेर लिया और उससे निपटने के लिए पुलिस को बुला लाए। पुलिस की मदद करने वाले लोगों में से उसने कम-से-कम 31 आदमियों को तो जख्मी कर दिया था। बड़ी मुश्किल से पुलिस के जवान उसे मार पाए।

जोधपुर चिड़ियाघर में एक पिंजरे से 1980 की शुरु मई में एक तेंदुआ छूट निकला। पिंजरे में वापिस लाने की कोशिशों में उसने चार कर्मचारियों को जख्मी कर दिया। पकड़ने वालों से परेशान होकर वह एक कर्मचारी के मकान में घुस गया। उसे पकड़ने की सभी कोशिशें बेकार हो गईं, तब पुलिस ने उसे गोली से मार दिया।

हजारीबाग से करीब 60 किलोमीटर दूर छत्रा में एक तेंदुआ एक घर के अन्दर घुस गया। एक कमरे में अन्दर वह चुपचाप सो गया। उसने किसी इन्सान से छेड़छाड़ नहीं की। मालूम होता था कि जंगल में उसे अपने से तगड़े किसी जानवर ने ललकारा था। वह उसके सामने टिक न सका और घर में शरण लेने आ गया था। मकान मालिक ने जब उसे देखा तब किवाड़ भेड़कर बाहर से चिटकनी लगा दी और जंगल के अफसरों से सहायता लेने भागा। उसे शूट करने की पेशकश की गई। डिप्टी कमिश्नर ने इसकी अनुमति नहीं दी। फिर उसे पिंजरे में पकड़ लिया और हजारीबाग नेशनल पार्क भेज दिया।

1972 में वन्य प्राणी (संरक्षण) कानून बन जाने से तेंदुआ को सरकारी संरक्षण मिला हुआ है। कोई तेंदुआ भले ही पालतू पशु धन को मारने का अपराध कर रहा हो अथवा बेगुनाह इन्सानों की हत्या कर आतंक फैला रहा हो और जन-जीवन को अस्त-व्यस्त कर रहा हो, उससे पिंड छुड़ाने के लिए उसे यकायक मार नहीं दिया

जाता। प्रशासन और जंगलात के अफसरों की कोशिश होती है कि उसे जीने के हक से वंचित न किया जाए। यह बात दूसरी है कि कभी लाचारी के कारण उसे मारना पड़ जाए।

अल्मोड़ा से 17 किलोमीटर दूर, सरला गांव में एक तेंदुआ कुत्ते का पीछा कर रहा था। जान बचाने के लिए कुत्ता पास के घर में घुस गया। उसके पीछे तेंदुआ भी अन्दर चला गया। लोगों ने बाहर से कुण्डी लगा दी। बाघा परियोजना (प्रोजेक्ट टाइगर) के अफसरों को मौके पर बुलाया गया। बेहोशी की दवा वाली पिचकारी दागकर उसे बेहोश कर दिया गया। तब उसे पिंजरे में डालकर रामनगर ले गए। तेंदुआ दो मीटर लम्बा था। यह घटना 1983 के अन्त जुलाई की है।

कई बार बिना किसी स्पष्ट कारण के तेंदुए जंगल से निकलकर मानवीय निवासों में आ जाते हैं। अगस्त 1979 में कुछ तेंदुए पड़ोस के जंगलों से निकलकर सिंगरेनी कोयला खानों के इलाके में आ गए थे। मई 1980 में गिरनार के जंगलों से जूनागढ़ में तेंदुए आ गए थे। उन्होंने नगरवासियों को आतंकित कर दिया था। डिप्टी कन्जर्वेटर ऑफ़ फ़ौरैस्ट का ख्याल था कि शायद पानी की तलाश में ये खुले में निकल आए हैं।

क्या खाता है?

तेंदुआ बेहद चालाक और चतुर शिकारी होता है। उम्र बढ़ने के साथ-साथ इसका वेग और रफ़्तार कम होते जाते हैं। तब यह सामान्यतः उन पेड़ों की तिरछी शाखाओं पर लेटा रहता है जिसके नीचे से जीव गुजरते हैं। बेध्याने जीव को यह कूदकर पकड़ लेता है। तेंदुआ अंधेरे में ही कार्य करने की विशेष चिन्ता नहीं करता। यह प्रकाश को अच्छी तरह बर्दाश्त कर लेता है। इसलिए सूरज के पूरी तरह डूब जाने की प्रतीक्षा नहीं करता और तीसरे पहर बाद शिकार की टोह में निकल जाता है। आहार न मिले तो सवेरे तक शिकार खेलता रहता है।

रात के समय यह ढिठाई से मानव बस्तियों के आस-पास घूमता रहता है और जो कुछ भी हाथ लगता है उसे खा लेता है। अक्सर यह अकेला ही शिकार करने निकल जाता है। अपने से अधिक ताकतवर जानवरों पर हाथ नहीं उठाता। जोड़ा शिकार करे तो बड़े जानवरों की भी खैर नहीं।

कुत्तों, भेड़-बकरियों और गाय-भैंस के जातकों को उठाने यह अक्सर बस्ती में घुस जाता है। कुत्ते के मांस का बहुत शौकीन है। इसे पाने के लिए यह हर सम्भव उपाय काम में लाता है। दिन-दहाड़े घर के बरामदे में घुसकर पालतू कुत्ते को दबोच ले जाता है। अनेक वन-अधिकारियों के कुत्ते वन-विश्रामगृहों व तम्बुओं में से ठीक उनके पलंग के नीचे से उठा लिए गए हैं। कुत्तों की मौजूदगी का तो जैसे इसे इलाहाम हो जाता है। आवारा कुत्ते इसे आसानी से मिल जाते हैं। कुछ कुत्ते बहुत चालाक होते हैं। वे इसे धोखा देकर बार-बार बच निकलते हैं अख़ैर उसकी पकड़ में नहीं आते। ऐसे कुत्तों से तेंदुआ बहुत परेशान हो जाता है। गांव वालों का कहना है कि जब ऐसा कुत्ता पकड़ में आ जाता है तो तेंदुआ उसका दिल खाकर उसे पेड़ पर लटका देता है जैसे कि वह सन्तोष अनुभव कर रहा हो कि उसे करनी का दण्ड दे दिया गया है।

अपने शिकार की ओर यह बिजली की तेज़ी से झपटता है और सीधा गरदन पर इस तरह टूटता है मानो वज्र आ पड़ा हो। आक्रमण में ग्रीवा की कशेरुका टूट भी सकती है। पहाड़ी लोग तेंदुए की इस तरकीब को

जानते हैं। इसलिए वहां के बकरवाल कुत्तों के गले में पीतल या लोहे का चौड़ा पटा पहनाकर रखते हैं। इसके ऊपर अक्सर नोकीली कीलें भी जड़ी रहती हैं इससे तेंदुआ गरदन पर न मुंह मार पाता है और न पंजा।

तेंदुए की पसन्द की चीजों में गीदड़ का स्थान ऊंचा है। बड़े तेंदुए टट्टू, गधे, गाय-भैंस जैसे कद्दावर पालतू पशुओं और साम्बर जैसे बड़े हिरणों तथा बनैले सूअरों को भी मार लेते हैं। भूटान में ये चंवरी गाय को मार लेते हैं। जिन पहाड़ी इलाकों में माल ढोने का काम खच्चरों द्वारा किया जाता है वहां क्योंकि पालतू जानवरों में इनकी संख्या बढ़ जाती है और वे रहते भी आबादी के बाहर हैं, इसलिए वहां तेंदुए अक्सर खच्चरों को ही मारने लगते हैं। धौलखण्ड, सहारनपुर में एक तेंदुआ फूस से बनी दीवार को तोड़कर झोंपड़ी में घुस गया था और घोड़ी का बच्चा लेकर भाग गया था। बछेरे की कातर हिनहिनाहट को सुनकर फौरेस्ट रेंजर इस घटना को जान पाया था। कच्छ में तेंदुए ऊंटों को अक्सर मार लेते हैं। कच्छ के महाराव विजयराज जी ने एक घटना बताई थी। चरते हुए ऊंट के पास घास के अन्दर तेंदुआ लोट लगाने लगा। पत्तों की खड़खड़ाहट ने ऊंट का ध्यान खींचा। विचित्र गोरखधन्धे का निरीक्षण करने वह पास चला गया। पत्तों और घास में छिपे हुए तेंदुए ने लोटना जारी रखा। ऊंट ने उत्सुकता से अपनी गरदन नीचे झुकाई। पहुंच में आ जाने पर तेंदुआ बिजली की तेजी से लपका और उसे नीचे गिरा लिया। कई बार कोई-कोई हिरण भी ऐसी मूर्खता का परिचय देता है। छिपे हुए शेर या तेंदुआ से दूर भागने की बजाए वह उत्सुकता से पूंछ उठाकर बोलता हुआ उसी की ओर बढ़ने लगता है।

कुएं में तेंदुए

आवारा कुत्ते का पीछा करते हुए तेंदुए गांव के कुएं में भी गिर जाया करते हैं। नवम्बर 1976 में ऐसी दुर्घटना पणजी के अंजना गांव में हुई थी। आहार की तलाश में तेंदुआ गांव में निकल आया था और कुएं में गिर पड़ा। वन-कर्मचारियों ने उसे जैसे-तैसे निकाल तो लिया लेकिन उसकी एक टांग टूट गई थी।

गुजरात के गिरवन में सिंहों के लिए बनाए अभयवन में तेंदुए की कुएं में गिरने की अनेक घटनाएं हुई हैं।

जनवरी 1976 में रताड़ गांव में एक सूखे कुएं के अन्दर तेंदुआ गिर गया था। 30 किलोमीटर दूर सासण से माणा और हमीर शिकारी उसे निकालने के लिए आए। उन्होंने पहले तो बाल्टी में पानी भरकर 18 मीटर गहरे कुएं के नीचे उतारा। तेंदुआ प्यासा था, पी गया। तब नौ खाटों की सीढ़ी बनाकर कुएं के तल तक पहुंचा दी और सबसे ऊपर की चारपाई को पीपल के पेड़ के साथ रस्सी से बांध दिया, शाम हो गई। खेतों में से लोग हटा दिए और गांव वालों को गांव में भेज दिया। रात का सन्नाटा हो जाने पर भी वह खाट की सीढ़ी पर नहीं चढ़ा। अगला दिन भी ऐसे ही गुजर गया। रात नौ बजे तेंदुआ बाहर निकलकर कुएं के ऊपर खड़ा हुआ। वह सोच रहा था कि किधर भागूँ? इतने में उसे खेत में आदमी की आवाज सुनाई दी। वह पम्प घर में घुस गया और थोड़ी देर में खेतों से गुजरता हुआ जंगल में घुस गया।

1967 में मेन्देड़ा के बाजू में एक वाड़ी के अन्दर तेंदुआ गिर गया। अनुमान है कि यह गांव के आवारा कुत्ते का पीछा कर रहा था। पानी निकालने के लिए कुएं के अन्दर पम्प लगा था। पानी की सतह के साथ ही लकड़ी का मचान था जिसके ऊपर मोटर रखी थी। मचान का सहारा लेकर तेंदुआ तैरता रहा। उसे निकालने के लिए

एक खटिया नीचे उतारी गई जिसके चारों पायों पर रस्सियों को एक जीप के साथ बांध दिया और खटिया पानी में उतार दी। यह तेंदुआ समझदार था और बचाव दल के साथ सहयोग कर रहा था। घबराहट में या गुस्से में शोर भी नहीं मचा रहा था। करीब आधे घंटे में वह खटिया पर चढ़ गया। वाड़ी के आस-पास से सभी लोग हटा दिए गए। आहिस्ता-आहिस्ता दोनों वाहनों को एक साथ चलाया। 30-35 हाथ गहरी वाड़ी में से तेंदुआ आराम से ऊपर आता गया। जमीन के लेबल पर आया तो छलांग मारकर भाग गया।

सासण रेल स्टेशन से विसावदार जाएं तो छह किलोमीटर दूर गैंगमैनों का एक डेरा सांधियागाड़ी है। 1966 की गरमी के मौसम में वहां एक कुएं में तेंदुआ गिर गया था। डिविजनल फौरेस्ट ऑफिसर शैलेन्द्र सिंह पिंजरा लेकर गए। रस्सी बांधकर पिंजरा कुएं के अन्दर लटका दिया। तेंदुआ उसमें घुस गया। पिंजरे को ऊपर खींच लिया। इस तेंदुए को जूनागढ़ के चिड़ियाघर में भेज दिया।

पट-पट गिर पड़ते हैं

बन्दरों और लंगूरों का यह भयंकर शत्रु है। चट्टानी पहाड़ों पर उनका खूब शिकार करता है। लंगूरों का पीछा करते हुए पेड़ों पर इस फुर्ती से चढ़ जाता है मानों यह स्वयं भी एक किस्म का बन्दर हो। बनेचरों का कहना है कि लंगूर का दिल बहुत कमजोर होता है। तेंदुए की दहाड़ से ही डरकर वे पेड़ पर से पट-पट गिर पड़ते हैं और तब तेंदुआ उन्हें खा लेता है। दरअसल बात यह है कि लंगूरों के शिकार के लिए यह रात के अंधेरे में बिना आहट किए पेड़ पर चढ़ जाता है। खतरे से बचने के लिए लंगूर डालियों के पतले सिरों पर सोते हैं जहां तेंदुआ पहुंच नहीं सकता। उनके नजदीक जाकर वह जोर से दहाड़ पड़ता है। अचानक किए गए इस हमले से बच निकलने का उपाय उन्हें रात के अंधेरे में नहीं सूझता। नींद से अकस्मात् चौंक उठने पर वे सम्भल भी नहीं पाते और पके फलों के समान धरती पर टपक पड़ते हैं।

बन्दरों और लंगूरों के दुश्मनों की गिनती यद्यपि अधिक नहीं है, लेकिन यह स्पष्ट है कि तेंदुए को वे अपना नम्बर एक दुश्मन मानते हैं और शेर को नम्बर दो। इसलिए दिन में यदि वे विडालीय जन्तुओं को देख लें तो शोरगुल करने लगते हैं। तेंदुआ या शेर किसी बन्दर या लंगूर का पीछा कर रहा है तो सारी बिरादरी विद्रोह का झंडा उठा लेती है। नारेबाजी और घुड़कियों का दौर शुरू हो जाता है। पेड़ों के ऊपर सुरक्षित बैठे हुए ये आपे से बाहर हो जाते हैं और अजीब व्यवहार करने लगते हैं। पहले तो ये एक पेड़ से दूसरे पेड़ पर तथा एक शाखा से दूसरी शाखा पर कूदते-फिरते हैं, पर जब तेंदुआ पेड़ पर चढ़ने पर स्वांग करता है, झट एक-दो मूर्ख बन्दर या लंगूर बच निकलने के लिए नीचे कूद पड़ते हैं और वहां तेंदुए के पंजे में दबोच लिए जाते हैं।

अफ्रीका का बबून (पापिओ आनुबिस) बन्दर आसानी से तेंदुए के हाथ नहीं आता। 34 किलोग्राम तक वजनी बड़े किल्लों (कैनाइन टीथ) वाला यह मांसाहारी बन्दर पहले तो पेड़ के ऊपर चढ़ जाता है और जब तेंदुआ ऊपर जाता है तब शाख के सिरे पर जाकर दूसरे पेड़ पर कूदता हुआ नीचे उतर जाता है। फिर जान बचाने के लिए तेज दौड़ लगाता है। पीछा करता हुआ तेंदुआ जब उसके बिलकुल नजदीक पहुंच जाता है और उसे दबोचने ही लगता है तब वह पलट कर मुकाबले के लिए तैयार हो जाता है। अपनी सम्पूर्ण शक्ति और मनोबल से वह एक बार तो पूरा मुंह फाड़कर उस पर जवाबी हमला करता है। तेंदुआ क्षण भर के लिए रुक जाता है

और भौंचक होकर बबून के पेंतरे को गौर करता है। तेंदुए के सामने बबून बिल्कुल तुच्छ जीव है, परन्तु आसन्न मौत ने उसे गजब की दिलेरी दे दी है। अगले ही क्षण तेंदुआ तेज़ झपट्टे में बबून को दबोच लेता है।

छोटे तेंदुए को छोटे शिकार से ही संतुष्ट होना पड़ता है। भोजन के मामले में तेंदुए को किसी खास किस्म के आहार पर रहने की आदत नहीं है। कीड़े जैसे तुच्छ जीव से लेकर जिराफ के बच्चे तक किसी भी जानवर को खा लेता है। पक्षियों को भी नहीं छोड़ता। चूहों को अपने पंजों व मुंह से झपटकर पकड़ लेता है और खा जाता है। कैनरा के जंगलों में तेंदुए के मल में एक बार बड़ा काला बिच्छू देखा गया था। तेंदुए द्वारा खाया गया वह बिच्छू आंशिक रूप से ही हजम हुआ था।

अनेक बार देखा गया है कि शिकार को मारकर पेट भर चुकने पर तेंदुआ बची हुई लाश को पेड़ के ऊपर टांग देता है ऐसा इसलिए करता है कि भूमि पर झाड़ी में छिपाए गए शिकार को अन्य मांसाहारी जानवर न खा जाएं। अगली रात फिर वह जानवर को पेड़ पर से उतार लाता है और भूख शान्त करके पुनः टांग देता है। मालिन अभयवन के पास एक गांव के नजदीक ही बहेड़े के पेड़ पर दस मीटर की ऊंचाई पर तिफंकी के ऊपर तेंदुए द्वारा टांगी गई बछिया देखी गई थी। पालती दून में बरगद के एक दिगन्तसम मोटे गोधे पर चीतल को रखकर एक तेंदुआ कई दिन खाता रहा था।

यह जानवर को सीधा आमाशय से खाना शुरू करता है। शेर प्रायः अंतड़ियों आदि को निकालकर पिछले भाग से खाना शुरू करता है और धीरे-धीरे आगे बढ़ता जाता है। शेर की तुलना में यह खाने में आधी भी सफाई नहीं रखता। तेंदुए को ताजा शिकार ही खाने का आग्रह नहीं होता। सड़े मांस को भी बिना झिझक खा लेता है। लाश में कीड़े भी कुलबुला रहे हों— भूख में उसे नहीं छोड़ता।

निडर और ढीठ

हमारे जंगलों का तेंदुआ (यदि नरभक्षी न हो तो) निडर और ढीठ जानवर है। एक बार गांव से 100 मीटर बाहर तेंदुए ने एक बैल मार लिया था। लाश पर तेंदुए का शिकार करने एच. टाईलर (जर्नल, बम्बई नेचुरल हिस्ट्री सोसाइटी, 1908, पृष्ठ 670-671) बैठे। अन्धेरा हो गया। गांव की तीन-चार भैंसें चरती हुई लाश के पास 20 मीटर तक पहुंच गईं। कुछ देर बाद लाश पर तेंदुआ आ गया। एक भैंस ने उसे देख लिया। नथुनों से जोर से फुंकारती हुई—सी वह उसकी तरफ बढ़ी। तेंदुआ तुरन्त चला गया और भैंस चरने लगी। एक—दो मिनट बाद तेंदुआ लौटा और मरे हुए बैल के एक तरफ नीचे लेट गया जिससे भैंसें उसे देख न सकें। चरती हुई भैंसें उससे पांच मीटर दूर तक आ गईं। टाईलर को कटर—कटर की आवाज सुनाई दी जिससे पता चलता था कि ओट में बैठा तेंदुआ लाश को चीर—फाड़ रहा है। आवाज को सुनकर एक भैंस ने ऊपर देखा और मारण की तरफ एक कदम बढ़ गई। तेंदुए ने अपना खाना जारी रखा। देर तक घूरने के बाद भैंस चरने में लग गई। उसने समझा होगा कि कोई शूद्र श्वान है, इसलिए उसकी तरफ अधिक ध्यान नहीं दिया। वह वास्तव में लाश से पांच मीटर के अन्दर चर रही थी। लाश का चौड़ा हिस्सा उसकी तरफ था, तेंदुआ पीछे ओट में था। अगले 20 मिनट के करीब भैंस मारण के 50 मीटर के अन्दर चरती रही। दूसरी भैंसे इस कार्यवाही में कोई रुचि नहीं ले रही थीं। यद्यपि, वे आस—पास ही चर रही थीं।

लकड़ियां फेंकने पर भी लाश को नहीं छोड़ा

इन्सान की मौजूदगी की परवाह किए बिना यह शिकार को खाता रहता है। इस बेधड़कपन के कारण ही यह भारतीय जंगलों में सबसे आसानी से मारा जा सकने वाला विडालीय जन्तु है। अभयारण्यों में इसे इन्सान द्वारा मारे जाने या सताए जाने का भय होता ही नहीं, इसलिए वहां तो यह और भी अधिक 'निर्लज्ज' हो जाता है। कौबेट नेशनल पार्क में हथिनी पर एक टूरिस्ट जा रहा था। महावत ने देखा कि कुछ चीतल रोहिणी के नीचे खड़े हैं। टूरिस्ट को चीतल दिखाने के लिए उसने हथिनी को रोक लिया। उनके सामने ही ऊपर से एक तेंदुआ कूदा। एक चीतली की गरदन उसने मुख में पकड़ ली। दोनों पंजों से उसकी छाती को पकड़ लिया। बाकी चीतल भाग गए। कुछ सैकण्डों में ही वह मर गई। तेंदुए ने इसका पेट फाड़ा। दोनों हाथों से पकड़ कर जल्दी-जल्दी उसकी आंते खींचकर बाहर निकाल दीं। वहीं बैठकर उसने खाना शुरू कर दिया। पार्क में शिकार खेलना मना है। इसलिए पार्क में रहने वाले मांसाहारी कर्मचारी गोश्त के लिए तरसते हैं। सामने पड़े हुए शिकार को खाने में कोई कानूनी अड़चन तो थी नहीं। यह सोचकर महावत ने तेंदुए को भगाने के लिए शोर मचाया। तेंदुए ने एक बार तो चीतल के वक्षस्थल पर से अपना सिर ऊपर उठाया तथा महावत को देखा। फिर खाने में मग्न हो गया। महावत ने हथिनी की सूण्ड द्वारा एक लकड़ी उठवाई और तेंदुए की ओर फेंकी। दो-तीन बार इस तरह करने के बाद भी तेंदुआ नहीं हिला तो महावत ने शोर मचाते हुए हथिनी आगे बढ़ा दी। तब तेंदुए ने लाश छोड़ी और एक तरफ बैठकर महावत के जाने की प्रतीक्षा करने लगा। खून से उसका मुंह भीगा था। वह अपने शिकार को आसानी से महावत को नहीं सौंपना चाहता था। हो सकता है कि महावत जब चीतल को उठाने नीचे उतरे तो वह हमला कर दे। इस आशंका से महावत नीचे नहीं उतरा और लाश को छोड़कर आगे बढ़ गया। उसके देखते-ही-देखते तेंदुआ फिर लाश पर मुंह मार रहा था।

लाश के दोनों सिरों पर नर-मादा जुटे थे

संयुक्त राष्ट्र व्यापार सम्मेलन में भाग लेने जो प्रतिनिधि फरवरी-मार्च में दिल्ली आए हुए थे उनमें से कुछ कौबेट नेशनल पार्क घूमने चले गए। उन्होंने एक ही रात ठहरना था। आते ही पार्क की हथिनी ली और ठण्डी सड़क की ओर चल दिए।

शाम का समय था। पार्क के गाइड का ख्याल था कि साल वन से निकलते हुए चीतल के झुण्ड और सूअरों के गोल मिल ही जाएंगे। मचान नम्बर एक तक पहुंचे ही थे कि पीछे बन्दरों के खों... खों... करने की आवाज आई। खतरे के समय बन्दर जिस तरह बोला करते हैं उसी तरह ये आवाज कर रहे थे। महावत ने झट हथिनी को उधर घुमाया लेकिन वहां उन्हें कोई जानवर दिखाई नहीं दिया। पार्क के गाइड ने साल के ऊंचे पेड़ पर आश्रय लिए हुए बन्दरों की मुखकृतियों का अध्ययन किया। वे जिस दिशा में देखकर भीति-संकेत दे रहे थे उसी ओर हथिनी को बढ़ाया। दो मिनट में ही वे ठीक जगह पर पहुंच गए। रोहिणी के एक गोधे पर चीतली की लाश टंगी थी। उसका सिर नीचे लटक रहा था। लाश के दोनों सिरों पर नर और मादा तेंदुए जुटे हुए थे। सम्मेलन के प्रतिनिधि अपने भाग्य को सराहने लगे कि उन्हें ऐसा अद्भुत दृश्य इतने कम समय में देखने को मिल गया। जिनके पास कैमरे थे, वे दबादब क्लिक करने लगे। एक प्रतिनिधि की कैमरे में भरी हुई रील खत्म हो गई। उसने दूसरी रील चढ़ाई और इत्मिनान से फोटो लिए। इतने समय बाद मादा तेंदुआ नीचे उतर आई पर नर खाने में लगा रहा।

दुश्मन — सेही, अजगर, मगर, जंगली कुत्ते

एक तेंदुए के शरीर में सेही के तीन कांटे गड़े हुए मिले थे। इनमें से एक अगले दाएं पैर की गद्दी के अन्दर था। दूसरा अगली बाईं टांग के जरा ऊपर और तीसरा कन्धे के पास पसलियों के बीच में। सभी कांटों के ऊपरले सिरे टूटे हुए थे, निचले सिरे जख्मों के अन्दर आठ सेंटीमीटर धंस गए थे। जख्मों के चारों ओर मांस खूब सूजा हुआ था। कष्ट के मारे तेंदुआ बहुत क्षीण हो गया था और शिकारी द्वारा गोली से मार लिया गया था। एक अन्य उदाहरण में तेंदुए की आंख के अन्दर सेही के कांटे आठ सेंटीमीटर गहरे घुसे मिले थे। यह काना तेंदुआ एक शिकारी द्वारा मारा गया था।

बक्साल्वार में 19 दिसम्बर, 1906 को साढ़े पांच मीटर लम्बे एक अजगर के पेट में से एक तेंदुआ निकला था। नाक से पुट्टे तक 125 सेंटीमीटर लम्बा था। दैत्याकार अजगर के मुकाबले यह निस्संदेह बहुत छोटा था परन्तु वीरगति पाने से पहले यह बहादुरी से लड़ा था। अजगर ने अपनी कुण्डलियों में तेंदुए को कसकर भींच लिया था और उसके अगले पंजों को कुण्डलियों में जकड़ लिया था। उसे यह कारगर हथियार चलाने का मौका ही नहीं दिया था। मौत के मुंह में पहुंचे हुए तेंदुए ने तब पिछले पंजों से वार करने शुरू किए। अजगर के शरीर पर पंजों के सात निशान थे। पहला निशान सिरे से एक मीटर दूर था और आखिरी निशान पूंछ से 30 सेंटीमीटर ऊपर था।

मध्य प्रदेश में बेन गंगा के किनारे से 27 मार्च, 1913 को गांव वालों को एक मरा हुआ तेंदुआ मिला था। यह पूर्ण वयस्क नहीं था, इसकी लम्बाई लगभग 160 सेंटीमीटर थी। उस पर पड़े घावों से पता चलता था कि वह निस्संदेह मगरमच्छ (क्रोकोडिलस पलुस्त्रिस लेसन, *Crocodylus palustris* Lesson) ने मारा है। सर ई. टेन्नान्ट ने नेचुरल हिस्ट्री ऑफ सीलोन नामक पुस्तक में एक तेंदुए का रोचक वृत्तान्त दिया है जो एक लालची मगरमच्छ (क्रोकोडिलस पोरसुस शनाइडर, *Crocodylus porosus* Schneider) का शिकार बना था।

फ्रेडरिक राइट और उनके एक साथी बरार में गोगरा नदी के किनारे शिकार कर रहे थे। बनेचरों ने उन्हें बताया कि नदी के पार एक ऊंचे पेड़ के ऊपर दो तेंदुए बैठे हैं। वे उधर गए और उन्होंने सलई के पेड़ पर कुछ काली चीज देखी, नीचे कुछ जानवर घूम रहे थे। दूरबीन ने दृश्य को साफ कर दिया। सलई पर एक-दूसरे के ऊपर दो अलग-अलग टहनियों पर दो तेंदुए बैठे थे। नीचे दस-बारह जंगली कुत्तों के जोड़े चक्कर काट रहे थे। ऊपर वाला तेंदुआ शाखा के ऊपर लेटा था और निचला सीधा बैठा था। पेड़ तक पहुंचने में कुछ कठिनाई थी। राइट तो नीचे की ओर से बढ़े और उनका साथी ऊपर की ओर से। कुछ देर बाद निचला तेंदुआ कूद पड़ा। कुत्ते उसके पीछे लग गए। पहले वह राइट की ओर जा रहा था। फिर उसने दिशा बदली और नाले में घुस गया। उसी समय उनके साथी शिकारी ने दूसरे तेंदुए को गोली मार दी। मरा हुआ तेंदुआ जब गिर रहा था तब एक दुसंखी पर अटक गया। कुछ कुत्ते झट वापिस आ गए। तेंदुआ उनकी पहुंच से ऊपर था। वे पिछली टांगों के बल खड़े होकर तेंदुए के बहते हुए खून को पीने लगे।

भूखे तेंदुए आपस में ही एक-दूसरे को खा जाते हैं। मेजर एच.डी. ओलीविहर (1892) ने एक उदाहरण दिया है, जिसमें गोली से घायल किए गए एक मादा तेंदुए को उसका पति पेड़ के ऊपर दुसंखी पर रखकर खा रहा था।

जंगली जानवरों के जीवन पर डॉक्युमेंटरी फिल्में बनाने में नई दिल्ली के नरेश बेदी ने अन्तर्राष्ट्रीय ख्याति अर्जित की है। भारत सरकार के पर्यावरण और वन मंत्रालय के लिए उन्होंने शेर के संरक्षण पर एक डॉक्युमेंटरी 'सेविंग दि टाइगर' बनाई है। इसमें उन्हें एक दुर्लभ और दिलचस्प प्रसंग फिल्माने में सफलता मिली है। मध्य प्रदेश के कान्हा नेशनल पार्क में वे बच्चों वाली एक शेरनी को फिल्मा रहे थे। इसके पीछे वे कई महीने लगे रहे। बच्चे बहुत छोटे थे और अपनी रक्षा खुद करने में सक्षम नहीं थे। एक तेंदुआ उनकी फ़िराक में था। नरेश ने उसे उस इलाके में कभी-कभी देखा था। एक दिन शेरनी का दाव लग गया। उसने उसे मार लिया। डॉक्युमेंटरी में तेंदुए को खाने के रोमांचक दृश्य हैं। शेरनी ने उसे रजकर खा लिया। इससे लाश कुछ हल्की हो गई। उसे उठाकर वह अपने बच्चों को खिलाने ले गई।

तेंदुए का सबसे बुरा दुश्मन आदमी है। ट्रॉफियों (विजय-चिन्हों) के लिए वह इसका खूब शिकार करता रहा है। वाहनों से टकराकर भी तेंदुए जख्मी हो जाते हैं। 1988 के शुरु दिसम्बर में पुणे से 60 किलोमीटर दूर काण्डला घाट में फ़ौरस्ट गार्डों को एक जख्मी मादा तेंदुआ मिली। आठ साल की इस तेंदुए के नथुनों और दाहिने कान से बहुत खून बह रहा था। पुणे म्युनिसिपैलिटी के पेशवा पार्क चिड़ियाघर में उसका इलाज करने वाले डॉक्टर का ख्याल था कि मुम्बई-पुणे राजमार्ग पर रणमंची स्थान पर सम्भवतः तेज रफ़्तार से आते हुए किसी भारी वाहन से वह टकरा गई थी। यहीं पर वह पहली दिसम्बर को अचेत अवस्था में देखी गई थी।

जानवडला के बाजू में 1976 की गरमियों में एक तेंदुआ मरा पड़ा था। मालूम पड़ता था कि वह बीमार हो गया था और अपनी स्वाभाविक मौत मरा था। गश्त पर गए हुए शिकारियों ने उसे जीप में सासण पहुंचा दिया था। उसकी खाल उतार ली गई थी। उसकी आंतों में सेही के 25-30 कांटे थे जो आंतों को पार कर गए थे। इसी से उसकी मौत हो गई थी।

गिर-वन में तेंदुए सिंहों से डरकर रहते हैं। एक ही वनखण्ड में सिंहों के निवास के आस-पास तेंदुए भी रहते हैं। इनका एक-दूसरे से आमना-सामना नहीं होता। गिर-वन में सिंहों को अपनी सर्वोपरि सत्ता का अहसास है। तेंदुआ सिंह के सामने कभी नहीं जाता। तेंदुए के मारे हुए शिकार को सिंह छीन लेते हैं। इसलिए वे अपने शिकार को पेड़ों के ऊपर ले जाकर खाते हैं।

आत्मरक्षा के लिए पेड़ों पर शरण

आत्मरक्षा के लिए भी तेंदुए पेड़ों पर शरण ले लेते हैं। 1974 की गरमी के मौसम में भेराड़िया के जंगल में सीमा टोले के 18 सिंह विचरा करते थे। एक दिन उन्होंने एक तेंदुए को अपने इलाके में देख लिया। वे उसके पीछे भागे, तो वह सागवान के पेड़ पर नौ मीटर की ऊंचाई पर बैठ गया। सिंह उस पर चढ़ नहीं सकते थे। वे शिकार की खोज में दूसरी जगह चले गए।

कभी-कभी सिंह कमर कसकर तेंदुए के पीछे पड़ जाते हैं। एक बार गेम गार्डों ने एक पेड़ के नीचे सिंहों को बैठे देखा। वे चौकन्नी आंखों से बार-बार ऊपर देखने लगे। उन्होंने 15 मीटर ऊपर दुसंखी पर तेंदुए को छिपे देखा। तेंदुआ सुरक्षित तो हो गया था, लेकिन सिंह वहां से हटने का नाम नहीं लेते थे। भूखे-प्यासे सिंहों का धरना 24 घण्टे से अधिक चला। भूख से व्याकुल होने के बाद तेंदुए को पेड़ के ऊपर से उतरना जरूर पड़ता,

तब सिंह उसे फाड़ डालते। गेम गार्ड उसकी सहायता के लिए न आते तो उसका यही अन्त होना था। गेम गार्डों ने बकरी का चारा देकर सिंहों को दूर बुला लिया। इस बीच तेंदुआ भाग गया।

उड़ीसा के कोरापुत जिले के गुम्मा में एक पूर्ण वयस्क तेंदुआ एक ऊंचे पेड़ पर चढ़ते हुए देखा गया। यह दिसम्बर 1989 के तीसरे सप्ताह की बात है। लाठियों और दूसरे हथियार लेकर गांव वाले उधर दौड़े। उन्होंने पेड़ को घेर लिया। तेंदुआ लोगों के जमघट को देखकर डर गया, और पेड़ से नीचे उतर आया। हथियारों से लैस लोगों के घेरे से निकलने का उसे रास्ता नहीं मिला। वह एक आदिवासी पर झपटा और उसे बुरी तरह जख्मी कर दिया। दूसरा आदिवासी उसे बचाने के लिए सामने आ गया। उसने अपनी कुल्हाड़ी से तेंदुआ पर कसकर प्रहार किया। तेंदुआ फिर पेड़ पर चढ़ गया। सैकड़ों लोगों से घिरा हुआ तेंदुआ तीन दिन भूख-प्यासा पेड़ पर कैद हो गया। हथियार बन्द पुलिस के जवानों और जंगल के अफसरों ने भी मोर्चा सम्भाल लिया। वन्य जीवों की सुरक्षा करने के हिमायतियों ने सुझाव दिया कि उसे मौत की सजा देने की बजाए पिंजरे में जिनदा पकड़ना चाहिए। जबर्दस्त घेरेबन्दी से निकलकर किसी तरह तेंदुआ निकला और एक आदिवासी के घर में शरण लेने चला गया। घबराया हुआ, भूख से व्याकुल, हताश तेंदुआ किसी भी क्षण वहां के लोगों के लिए खतरनाक बन सकता है, यह सोचकर उसे शूट कर दिया गया।

तेंदुओं की संख्या

भारत में तेंदुओं की संख्या शेरों से अधिक है, लगभग छः हजार से सात हजार तक। इस शताब्दी के पहले दशक में इससे दस गुने तेंदुए रहे होंगे। गरम प्रदेशों के जंगलों में तथा हिमालय के ठण्डे जंगलों में भी यह रह लेता है। असाधारण रूप से विभिन्न परिस्थितियों में जीवन बिताने की इस क्षमता के कारण इसने अपना अस्तित्व बनाए रखा है। वरना इसकी खालों का बड़े पैमाने पर जो व्यापार चल रहा था उससे यह लुप्त होता जा रहा था। 1970 में इसे संरक्षण प्रदान किया गया था। तब से इसकी संख्या बढ़ने लगी है। यह बात आगे दी गई तालिका से स्पष्ट है।

राज्य	1984	1989	1993
अरुणाचल प्रदेश	21	121	98
असम	123	-	246
आन्ध्र प्रदेश	-	301	153
उड़ीसा	266	279	378
उत्तर प्रदेश	880	1095	711
कर्नाटक	238	283	455
केरल	-	117	-
गुजरात	498	702	796
गोआ	10	18	31
जम्मू और कश्मीर	4	-	-
तमिलनाडू	189	119	138
त्रिपुरा	27	37	-
नागालैण्ड	72	-	-
पश्चिमी बंगाल	112	108	-
बिहार	113	134	284
मणिपुर	7	-	-
मध्य प्रदेश	1322	2036	1700
महाराष्ट्र	380	580	-
मिज़ोरम	6	38	49
राजस्थान	270	461	475
हरियाणा	19	10	-
हिमाचल प्रदेश	199	-	821
योग	4756	6439	6334

प्रवासी तितलियाँ

शिव प्रसाद *

सारांश

प्रायः देखा गया है कि प्रकृति में वन्य प्राणियों में स्थानान्तर/देशान्तर (माइग्रेशन), तापक्रम में परिवर्तन, दैवी आपदाओं, भौतिक परिस्थितियों के परिवर्तनों जैसे सूर्य की रोशनी, स्थान की न्यूनता इत्यादि या भौगोलिक परिस्थितियों के कारण होता है। जबकि पक्षियों में यह प्रक्रिया शीतकाल बिताने अथवा शीतकाल में दिन छोटे होने के कारण तथा भोजन की तलाश में उत्पन्न कठिनाइयों के कारणों होता है।

लेकिन देशांतर निवास तितलियों एवं अन्य कीटों में किन-किन कारणों से होता है यह अभी भी एक रहस्य बना हुआ है (विन्टर क्लिथ 1982)। यह एक गहन शोध एवं अध्ययन का विषय है। इन्हीं सब बातों (रहस्यों) की चर्चा इस पत्र में की गई है।

परिचय

अनादि काल से ही वन्य प्राणियों, पक्षियों एवं कीट-पतंगों के विविध स्वभावों एवं कार्यकलापों के अध्ययन से जीव वैज्ञानिकों ने पाया कि जीवों में देशान्तर निवास का स्वभाव अत्यन्त ही विचित्र एवं दिलचस्प पैतृक स्वभाव है, जिसको कि प्रयोगों से सिद्ध पाया गया कि प्राणियों के इस अनुवांशिक स्वभाव (गुण) को अप्राकृतिक प्रयोगों एवं कृत्यों से बदलना पूर्णतया असंभव ही नहीं अपितु अति जटिल भी है, क्योंकि यह गुण उनके संस्कारों में पैतृक गुणों से चलकर आता है जो कि अनुवांशिक बनकर रह जाता है। यह अभी भी रहस्यमय एवं गहन शोध का विषय बना हुआ है।

भूमिका/प्रस्तावना

तितलियाँ कीट वर्ग (क्लास-इनसैक्टा) के शल्क पंखी गण (आडर-लेपीडोप्टेरा) कीटों में आती है एक अनुमान के अनुसार अब तक कुल ज्ञात लेपीडोप्टेरा की जातियों की संख्या लगभग 12,000 अंकित है (वीसन 1941) प्रमुखतया तितलियों के 10 कुल (फेमली) हैं जैसे :- कुल, 1. डेनाइडी, 2. सेटायरिडी, 3. ऐमेथ्युसिडी, 4. निम्फेनिडि, 5. ऐक्रेडी, 6. इरीसिनिडि, 7. लाइसेनिडि, 8. पैपिलिओनिडी, 9. पाइरिडी, 10. हैस्पिरिडी।

एक सर्वेक्षण के अनुसार उपरोक्त 10 कुलों की कुल संख्या सीजोन, साउथ इंडिया, ब्लूचिस्तान, चितराल वेस्टर्न-हिमालयन, नार्थ-ईस्ट इंडिया, बर्मा, अण्डमान निकोबार इत्यादि में ही 4,764 से भी अधिक वंशज/जातियाँ विद्यमान हैं, (विन्टर क्लिथ- 1957)

तितलियों के जीवन चक्र की सबसे बड़ी विशेषता यह है कि सामान्यता प्रौढ़ तितली का जीवन सामान्य तथा एक दिन का होता है, परन्तु यह एक सप्ताह से लेकर 5-सप्ताह तथा अधिकतम एक वर्ष तक देखा गया है, यह भी अति विरल अवस्थाओं में जहां कि सब तितलियों की कोशित (प्यूपल) स्थिति शीत निद्रा/विन्टर-हाइवरनेशन में चली जाती है, इतने लघु जीवन चक्र के कारण भी कुछ वंशज/जातियों का देशांतर-निवास की आवश्यकता पड़ती है। साथ ही सबसे लघु पंख विस्तार (विंग स्पान) (15 मि०मि०) की घास-मणि (ग्रास-ज्वैल) (जिजीरिया ट्रैकिल्स) जाति जो कि कुल-लाइसेनिडी तथा सबसे दीर्घ पंख विस्तार (विंग स्पान) 190-मि०मि० (17.5 से०मी०) कामन वर्ड किंग (ट्रवाइड्स हेलिना मिनोस) नामक तितलियाँ भी कभी-कभी देशांतर निवास की आवश्यकता महसूस करती हैं।

देशान्तर निवास क्यों?

जैसा कि प्रस्तावना में बताया जा चुका है कि तितलियों में देशान्तर निवास के बारे में अभी भी उलझन भरा एवं गूढ़ तथा अस्पष्ट एवं गहन शोध का विषय है, जैसे कि उदाहरण के तौर पर पेन्टेड लेडी बटर फ्लाई (वेनीसा कार्डयूई) जिनकी अनिश्चित अन्तर तालों के पश्चात विशाल झुंडों में (अरबों की संख्या में) नार्थ अफ्रीका रेगिस्तान के किनारों से उड़कर वेस्टर्न यूरोप तथा ब्रिटेन तथा कुछ तो आइसलैण्ड, रूस के अन्दर तथा आर्कटिक घेरे तक पहुंच जाती हैं।

दीर्घ-गोवी तितली (लार्ज कैवेज फ्लाई हवाइट्स, पेरिस ब्रेसिकेई) के दल के दल (स्वार्म्स), बदली युक्त-पीत तितलियों कोलिएस जाति तथा अन्य कुछ तितलियाँ, ब्रिटेन तक मनचाहे, अंतराल के पश्चात देशान्तर निवास को निकल जाती हैं।

देशान्तर निवास के अनेक कारणों में से कुछ संतोषजनक कारणों में कुछ निम्न प्रकार हैं :-

1. अत्यधिक जनसंख्या वृद्धि के कारण कुछ गर्भित तितलियों को यह एहसास वंशगत ज्ञान के कारण प्रतीत होने लगता है कि आने वाली वंशावली के लिये वर्तमान स्थान में पर्याप्त खाद्य-पौधे (खाद्य-सामग्री) पर्याप्त नहीं होंगे, तथा उनमें से कुछ प्रतिशत जनसंख्या झुंड बनाकर देशान्तर-निवास में निकल जाते हैं।
2. लेकिन कुछ जातियों में उपरोक्त कारण सही नहीं सिद्ध होता, कारण कि वह गर्भाधान की पूर्व-स्थिति में ही देशान्तर-निवास में निकल जाती हैं। तथा वहां जाकर ही अपने लिये उपयुक्त प्रजनन स्थान की तलाश करती हैं।
3. कभी-कभी यह भी देखने में आया है कि जबकि खाद्य पौधों की कमी आने वाली वंशावली के लिये न होने पर भी देशान्तर निवास पर तितलियां निकल जाती हैं।
4. अन्य कारणों में एक उपयुक्त कारण यह भी हो सकता है कि स्थान एवं खाद्य पर्याप्त होते हुए भी देशान्तर निवास की आवश्यकता सामान्य जनसंख्या के अलावा, अतिरिक्त जनसंख्या को तापक्रम के बदलाव की आवश्यकता होती है।

उपरोक्त उदाहरणों एवं कारणों से स्पष्ट होता है कि तितलियों में देशान्तर-निवास के कारणों के लिए खाद्य पदार्थ की कमी, स्थान का अभाव, तापक्रम परिवर्तन, तथा प्रजनन के लिये उपयुक्त या अनुपयुक्त स्थान, समय तथा पूर्व एवं पूर्वोत्तर गर्भ-स्थिति की सीमाओं व भौगोलिक स्थितियों के कारणों में बांधकर कोई निश्चित धारणा नहीं बनाई जा सकती।

एक अन्य सिद्धान्त के अनुसार देशान्तर निवास का कारण तितलियों में इसलिये भी हो सकता है कभी-कभी बीती या विगत् के स्वभाव में अंकित देशान्तर-निवास की अचानक पुनरावृत्ति के कारण जीवित रहने के लिये तापक्रम की स्थिति, स्थान का अभाव व भोजन की कमी को पुनः जाग्रत करके इसे आवश्यक बनाता हो।

साथ ही कभी-कभी ये वृहद् संख्या वाले देशान्तर-निवास वाले झुड़ छोटे झुंडों में देशान्तर निवास में निकल पड़ते हैं जैसे कि यह उदाहरण रेड ऐड मिरल (वेनीसा ऐटलान्टा) तथा अन्य में इंगलैंड में देखे जाते हैं तथा पी-ब्लू (लैपीडस वोइटिकस) में हिमालय में यह आम उदाहरण है। ऐसे देशान्तर-निवासों के कारण इनमें शायद इसलिये भी होते हैं कि उनके अन्दर वंशगत यह गुण आ गया हो कि किस तरह से सामान्य से अधिक जनसंख्या बढ़ने पर क्या तितलियों के अलावा कभी-कभी कुछ तितलियों के लार्वे भी दलों में देशान्तर-निवास के लिये जाते हुए देखे गये हैं जैसे कि प्रमुख तथा टाइगर बटर-फ्लाईस (डेनायस जाति०) एवं सेत्वा ट्रास (एपियाज जाति०) तथा अ- देशान्तर निवास (इमाग्रिन्ट जाति कैटोप्सिला वंश) इत्यादि।

इनके अलावा भी अब तक विदित (रेकार्ड्स) ब्रिटिश तितलियों की 14 से भी अधिक जातियाँ या तो कुछ सीमा तक (पारसियली) या पूर्णतया देशान्तर-निवास पर ही ब्रिटिश आइल्स में जीवन यापन की आदी हैं।

उपरोक्त प्रकार के देशान्तर-निवास के सिद्धान्तों एवं जातियों के अलावा भी कुछ अन्य प्रकार से सामूहिक देशान्तर-निवास करने वाली जातियों, जैसे- मौनार्क बटर फ्लाई (डेनायस फ्लैक्सिपस), उत्तरी अमरीका में प्रत्येक शरद/बंसत ऋतु में पूर्वी भाग से उड़कर यू०एस०ए० के दक्षिण भागों में प्रवास के लिये आ जाती हैं, जिससे कि विकट शीत के कारण होने वाले मृत्युदर से वो बच जाती है।, तथा उनकी वंशावली समाप्त होने से बच जाती है।

इसके अलावा भारत में भी उदाहरण के तौर पर लार्ज-कैवेज बटर फ्लाई (हवाइट- पेरिस जाति०) तितलियों में अति रोमांचकारी स्थानान्तर/देशान्तर-निवास देखने को मिलता है, जैसे कि तितलियाँ प्रारम्भिक शीत ऋतु में ही ऊँचे हिमालय से उड़कर नीची घाटियों में आ जाती हैं, तथा वहीं प्रवास करती हैं एवं प्रजनन करती हैं और प्रजनन के पश्चात उत्पन्न होने वाली वंशावली अत्यधिक गर्मी के मौसम (मई-माह) प्रारम्भ होने के पूर्व ही फिर हिमालय की तरफ लौट जाती है।

उपरोक्त अनेकों उदाहरणों एवं रहस्यों के उद्भवों के होते हुए भी अभी अनेकों कारण इन रहस्यों के बारे में शोधकर्ताओं के लिये चुनौतियाँ बनी हुई हैं। जैसे कि मौनार्क (डेनायस) तितलियों सामूहिक आत्महत्या के लिये देशान्तर-निवास के लिये निकलती हैं जिनका कारण अज्ञात है।

अब तक लगभग 33 से भी अधिक ज्ञान जातियों की देशान्तर-निवास वाली तितलियों में से 22 जातियों की देशान्तर-निवास वाली तितलियाँ अभी भी हिमालय के भागों में स्थानीय विविधताओं में रह रही हैं।

भारतीय तितलियों में देशान्तर-निवास के भिन्न-भिन्न काल

भिन्न-भिन्न मैदानी (पठारी) भागों में देशान्तर-निवास की स्थिति तीन मौसमों में विभाजित की जा सकती है, जैसे :-

1. प्रमुख उड़ान अक्टूबर तथा नवम्बर माह प्रतिवर्ष।
2. वर्षा ऋतु में उनकी वापसी दक्षिण की ओर उड़ती हैं, लेकिन केवल दो वंश (जैनरा) (ऐत्वाट्रासेसे) ऐपियास तथा अ- देशान्तर निवासी केटोप्सिला जाति की तितलियाँ दक्षिण में फरवरी-मार्च व गर्मी के मौसम के प्रारम्भ में पाई जाती हैं, तथा मई एवं जून के महीनों में यही तितलियाँ फिर उड़ान भरती हैं परन्तु भिन्न-भिन्न दिशाओं में।

जबकि श्रीलंका में उड़ानें प्रायः अक्टूबर से नवम्बर तथा मार्च एवं अप्रैल माह में होती हैं, लगभग 69 तितलियों की जातियाँ सामान्यतया अत्यधिक संख्याओं में स्थानान्तर-निवास के लिये निकलती हैं, तथा मुख्य दिशाओं में भी उड़ानें भरती हैं, जबकि इन उड़ानों के कारणों के बारे में अभी अनभिज्ञता है।

भारत के शेष भागों में उड़ानें वृहत् आकार (अत्यधिक संख्या वाली) की होती हैं तथा मीलों लम्बी कतारों में एवं लाखों की संख्या में समय-समय में देखी गई हैं। इन उड़ानों में सामान्यतया डेनायस जाति की तितलियों का बाहुल्य रहता है।

भारत की प्रमुख देशान्तर-निवास तितलियाँ

1. अदेशान्तर-निवास (इम-माइग्रेन्ट)	केटोप्सिला जाति	कुल - पाइरिडी
2. कामन ऐत्वाट्रास	ऐपियास ऐलविना	कुल - "
3. कामन क्रो	इप्लोया कोर	कुल - डेनाइडी
4. ब्लूटाइगर	डेनायस लिबिनिएस	कुल - "
5. कामन टाइगर	डेनायस फ्लैक्सिपस	कुल - "
6. लाइम बटर फ्लाय	पेपीलियो डिमोलियस	कुल - पेपीलियोनिडी
7. ग्रेट ऐग फ्लाय	हाइपो लिमिनास वोलिना	कुल - निम्फेलिडी
8. पी-ब्लू	लेम्पाइडस वोटिकस	कुल - लाइसेनिडी

परिचर्या (डिसकसन)

प्रायः देखा गया है कि तितलियों के 10 कुलों (फेमिलीज) में से मात्र 5 कुल (फेमिलीज) - 1. पाइरिडी, 2. डेनाइडी, 3. पेपीलियोनिडी, 4. निम्फेलिडी, 5. लाइसेनिडी ही देशान्तर-निवास की जातियाँ हैं। यदि यह मान

भी लिया जाय कि इन कुलों की अमुक जातियाँ जो कि पहले उल्लेखित की जा चुकी हैं उनके जीवन-यापन के लिये यदि नितान्त आवश्यक प्रक्रिया न भी हो तो भी किसी आपदा की स्थिति से बच निकलने का तथा वंश को आगे बढ़ाने का एक मात्र उपाय यही शेष रह जाता है।

निष्कर्ष

प्रकृति के इन अति सुन्दर उड़न-पुष्पों (फलाइंग-फ्लावर्स आफ दी नेचर) में देशान्तर निवास को देखना भी सबसे आलौकिक आनन्दों में से एक है तथा इसके रहस्यों पर शोध अपने आप में एक विचित्र अध्ययन है क्योंकि अभी इस स्वभाव के सही-सही अध्ययन की आवश्यकता जीव वैज्ञानिकों के लिये नये अध्याय का सृजन कर सकती है।

REPORTAGE

APATHY TOWARDS TIGER

Sumitra Rath, a life member of the Society, reports from Cuttuck that a group of tribals had set up a trap in the deep forest of Daitari to catch wild boar. Unfortunately an adult Royal Bengal tiger got trapped in stead. In pain and hunger the tiger growled for three days, untill a passer-by reported the matter to Anandpur forest office, from where the news was passed onto Keonjhar forest division. Keonjhar forest officials in turn informed the officials of the Nandankanan Biological Park in Bhubaneswar. The zoo officials went to Daitari, tranquillized and rescued the moribund tiger. In spite of best efforts put by zoo officials of Nandankanan, the giger whose body was racked in wounds died the following day. Post mortem report and expert opinion revealed the cause of death to be acute hunger and dehydration. Some zoo officials questioned as to how the forest officials of Daitari could not hear the roars of the tiger who was growling at the top of its voice for three whole days in terrible pain. Later there was criticism also of Nandankanan zoo officials for their failure in providing saline treatment to the dehydrated tiger immediatly on the spot.

The 18th, October, 97 issue of the daily Sambad adds that the place in the Daitari forest where the trap was laid was visited by a tigress and two adult tigers who had been howling there for quite some time. First time when the nearby villagers approached the place, the tigers fled only to come back and continued roaring. The haunting roars of the tigers had spread rerror in Daitari colony. But the forest department instead of taking prompt action, advised the villagers not to disturb the two tigers and the tigress.

This incident is symptomatic of the disturbances and human interference in tiger habitat, be it felling of trees, setting forest fires, poaching and setting traps that have brought the tiger and many other species of wild animals to the verge of extinction. The painful death of a hapless wild animal and its suffering that had brought three more of its kind to the same site is a reflection of the neglect, apathy and insensivity of human mind.

KUDOS NANDANKANAN BIOLOGICAL PARK OFFICIALS

Soon after the tiger episode, the Nandankanan zoo officials received news that in two separate incidents two wild elephants had been injured. One incident pertained to a fight between two tuskers that resulted in severe injury to the younger one in Keonjhar's Hadgarh Sanctuary. The zoo officials reached Keonjhar and treated the injured elephant and helped him recover.

Immediately afterwards they received the news of another wild elephant being sick and lying in Janakijhar near Charbatia. The elephant had been abandoned by its herd. She had delivered a calf presumably 4 to 6 months ago (which was with her), but the placenta had not come out fully. The same two officials again went to Janakijhar and treated her for two days. But she did not



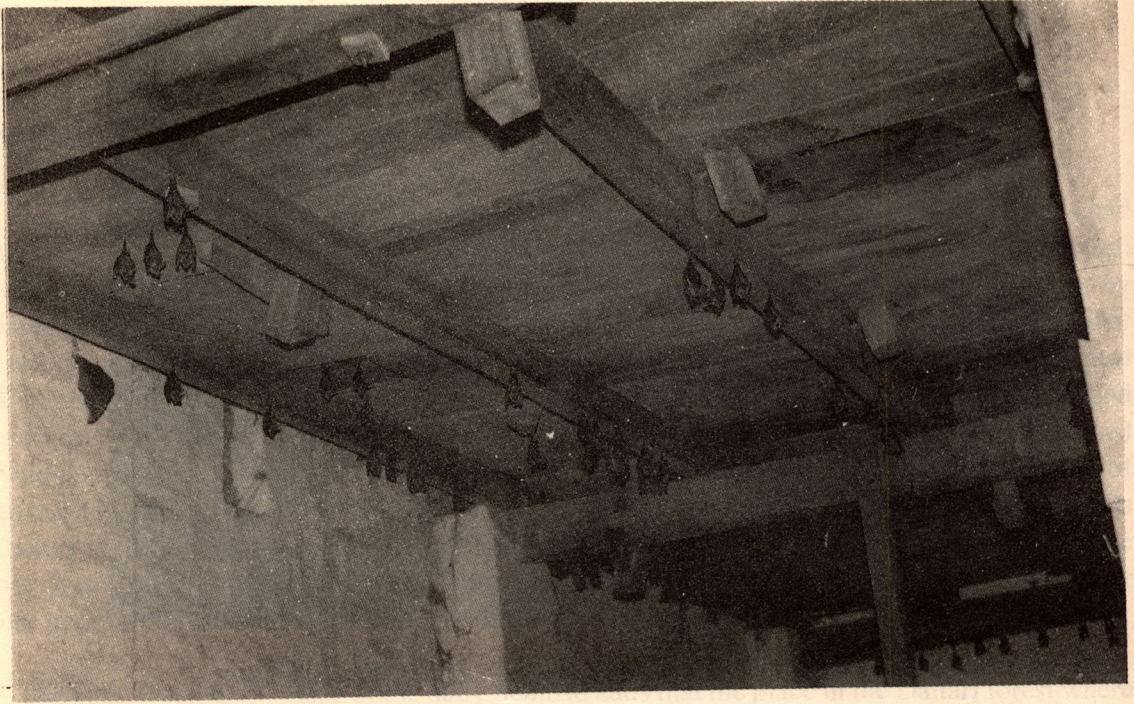
Mother elephant could not be saved.

Photo : Kaniska Rath



Baby elephant being rescued

Photo : Kaniska Rath



Colony of bats in discarded house (See Page 22) Photo : Dr. Y.P. Singh G.P.R.S., Z.S.I., Patna



Dense Colony of Indian Flying Fox (See Page 21) Photo : Dr. Y.P. Singh

recover nor could she be shifted to a zoo for further treatment. As the baby elephant which was rejected by the herd along with its mother, would not have survived in the wild, she was brought to the zoo. Heart rending scenes were witnessed as the calf would refuse to leave the mother. The calf tried to cajole or even kick the mother, climbed on the body of her dying mother and pushed those who tried to touch her mother. With the help of local villagers the harassed officials finally managed to tie her and load her in the vehicle, all the time fearful of their own safety as they were being watched by other wild elephants from a distance. The mother elephant died the following day. In Nandankanan Biological Park the visitors are ever eager to have the glimpses of 'Janki', the wild girl, as the incident received wide coverage both from print and electronic media. The baby elephant was named Janaki after the place where from she was recovered.

Coming in the wake of the controversy over the alleged mishandling of the incident leading to the death of the trapped tiger, the Nandankanan zoo officials spared no efforts in salvaging the baby elephant. This was a positive step in the field of wildlife conservation. Whereas it boosted the morale of Nandankanan zoo officials, the state government chose the moment to declare three more elephant sanctuaries in Orissa.



NEWS & VIEWS

Govt ban flouted as illegal trade in wild birds booms

**EXPRESS NEWS SERVICE,
NEW DELHI, OCT. 7**

THREE universally threatened birds species endemic to the Indian subcontinent are being traded openly in the markets of north India, says a study by TRAFFIC-India, a division of the World Wide Fund for Nature.

Swamp Francolin (*Francolinus Gularis*), Green Munia (*Estrilda Formosa*) and Finn's Baya (*Ploceus Magahynchus*) are traded in the local market. Strangely, these three species are listed only in Schedule IV of the Wildlife (Protection) Act (WPA) 1972, says Abrar Ahmed, the investigator who wrote the report.

In addition, 16 species in Schedule I of WPA, 36 species listed in various appendices of the international agreement, CITES, and three species in the World Conservation Union's Red Data list, are being bought and sold freely.

Abrar found that the Government ban on trapping and trading of wild birds since 1991 is breached more often than it is practised. "Illegal trade in wild birds flourishes in almost all the cities, towns and rural hamlets," he said. The bulk of the trade is in parakeets and munias, Abrar discovered during his survey conducted in 57 trading establishments and trapping areas spread over 36 cities in North India. Often working under cover and facing threat of assault, he found at least 250 species belonging to 51 families and seven sub-families being traded.

Abrar sympathises with the traditional trappers from Baheliya, Chirmar and Pathamie tribes for whom these birds are a source of livelihood. He says the main culprits are the city-based dealers who mastermind trapping operations and make mega-bucks.

He says nearly 30,000 people depend on bird trapping and selling, including those in related trades such as cage-making.

The ban on selling wild birds was imposed almost overnight, which left the tribal people with no option "but to deal clandestinely in birds".

About the volume of the trade, Abrar said there were no fixed figures. A trapper could make anything from Rs. 30 to 150 a day. There are dry seasons when no birds could be caught.

The report says the birds are regularly smuggled to Nepal and Pakistan. UP and Nepal are among the favoured routes. Delhi is sometimes a halt en route Pakistan via Punjab.

Despite heavy rain, experts say early onset of winter has forced birds to advance visit Avian visitors to Chilka arrive early this year

**EXPRESS NEWS SERVICE,
BHUBANESWAR, OCT. 10**

AVIAN visitors to the Chilka Lake, the world's largest brackish water lagoon, have already started flying in. According to ornithologist Sushant Kumar Das, who visits the Nalabana Bird Sanctuary every year, the migration has started relatively early this year.

Usually, the birds reach Chilka sometimes in mid-October but this year like in 1995, about 500 winged visitors have already been sighted by wildlife officials of Nalabana Island, a favourite nesting site.

Last year, nearly 20 lakh migratory birds visited Chilka and the same number is expected this year too. Das has identified 150 avian species, of which 93 are migratory ones. The common varieties include Shoveller, Pintail, Brahminy Duck, Barheaded Goose, Potchard, Wigeon, Terns, Plovers, Sandpipers, Pelicans, Flamingoes and Gulls. Rare species like Smew duck have been sighted in recent years after a gap of 13 years.

Another trend is the arrival of rising numbers of common Coots which is an indication of the deterioration of water quality. This is probably due to the proliferation of hyacinths in the lake, says Das. These birds feed on weeds.

The migratory birds visit Chilka from the palaeoartic region beyond the Himalayas in Northern Eurasia by two routes, the trans-Himalayan route and the Pakistan-Afghanistan route. The civil war in Afghanistan has probably forced birds to abandon the latter passage in recent years.

Experts are of the view that the early onset of winter and habitat interference have forced the birds to arrive earlier this year. They are also concerned over the excessive rains which have inundated almost all islands where the migratory birds alight. Surprisingly, the birds have advanced their visit in spite of high water levels.

In fact, about 3,000 Flamingoes have stayed on in the Nalabana sanctuary since last year. Except for a few months of monsoon when they fly elsewhere, Chilka is effectively their new habitat.

While wildlife enthusiasts are delighted at the early heralding of the winter congregation, they fear that the excessive water may lead the birds to stray off course and divert to other wetland sites nearby or worse, land on village ponds and get killed by poachers.

Crop damage by these birds is the main reason for their mass poaching by the villagers of the surrounding areas. While Nalabana remains submerged in early winter, the rapid concentration of the birds creates scarcity of feed in the sanctuary area. So, the birds move to adjoining paddy fields and feed on ripe paddy.

In a report published by Day two years back, he said nearly 2,000 acres of revenue land gets affected by this phenomenon. Villages which suffer upto 100 per cent crop damage include Soran, Mukteswar, Bhusundapur, Kalupadaghat, Satapada, Nuapada and Arakhakud. The damage is usually done by ducks which consume 100 to 1,200 quintals of paddy every night.

It is estimated that about 15,000 birds are killed in the harvesting season every year by the poachers. With no provision for any compensation for crop loss, villagers have found it more profitable to kill and sell bird meat. Birds are sold for Rs. 80 a piece, says Das. While wildlife officials dismiss Das's study as baseless, they admit that migratory birds are killed in large numbers outside the sanctuary.

The Central Government has sanctioned Rs. 10,000 for setting up an anti-poaching squad to ensure the safety of the birds.

Over 2,000 teak trees felled for building a 'rustic' bridge to lure green tourists

'Eco-tourism' threatens Kerala bird sanctuary

BONNIE JAMES,

KOCHI, NOV. 12

THE fragile environment of the Salim Ali Bird Sanctuary at Thattekkad has suffered extensive damage due to the unscientific forest management and eco-tourism tactics practised by the forest officials.

It is feared that the rampant destruction of forest cover and riverine undergrowth from an area of about 50 acres in and around the sanctuary to plant bamboo plantations and collect material for a wooden footbridge has scared off over 25 species of birds from the region.

The legendary ornithologist Salim Ali, the architect of this sanctuary, had identified 167 birds and his student Sugathan, 207. In addition to this, the Bombay Natural History Society has identified 253 kinds of birds from the sanctuary spread over 25.16 sq km.

While White Cedar, *Alstonia scholaris*, *Canarium strictum*, *Nima attenuata* and *Cinnamomum zeylanicum* are among the trees cut down, the plant species destroyed include *Rauwolfia serpentina*,

Alpinia galanga, *Cocculus hirsutus* and *Coscinium fenestraum*. All. these species are rare and precious.

The Indian Pitta, Paradise Fly Catcher, River Tern, Brown Shrike, Golden Oriole, Large Bee-eater, Brown-winged Crested Cuckoo, Open-bill Stork and Orange Breasted Fly-catcher are among the birds that are conspicuous by their absence, Paristhithi Samrakhshana Samithi activists Peruvanthanam John and Eldhose told *The India Express*. The number of several other species has dwindled.

The incomplete wooden foot-bridge spanning nearly 450 metres is a glaring example of the shame perpetrated in the name of ecotourism, which has become a fad of late. More than 2,000 teak trees, most of them being less than 20 years old, and numerous other small trees were felled to erect this contraption in the sanctuary in order to "attract tourists."

Even allowing for genuine ignorance in the matter of this "rustic attraction", it remains a mystery why the forest officials embarked on such callous destruction of trees, natural undergrowth and bird habitat in order to plant bamboo groves. Nearly 200 acres of land were available on the banks of the Periyar and Pooyamkutty Rivers that flank the sanctuary, which could have been used for plantation purposes without harming the fragile eco-system of the sanctuary.

Given the situation, there is every possibility of wildfire wiping out the remaining greenery in the cleared patches. Several small streams have dried up and cattle grazing, a major factor in forest degradation, has also increased in the area following the clearing.

No forest official in the region was willing to comment on the issue. It is understood that there were serious differences of opinion among the department officials themselves about the implementation of the "developmental project" which has now ended in disaster.

It's the first time that tiger-killing of such magnitude has struck a national park; they all died after consuming poisoned meat

Poachers prowl Corbett National Park, poison three tigers to death

AJAY SURI,

NEW DELHI, DEC. 12

SHOCK has gripped Corbett National Park following the discovery of two dead tigers- both poisoned- in the area during the past one week. Officials say it's a clear case of poaching. Confirming the deaths, Chief Wildlife Warden of Uttar Pradesh R.L. Singh says he doesn't rule out finding more carcasses in the days to come.

In fact, according to reliable sources, the body of yet another tiger- making it the third victim- was discovered on Wednesday evening in the Corbett Tiger Reserve.

Singh says the news of the third death hasn't reached him yet but he will "not be surprised" if it turned out to be true.

Although senior forest officials monitoring investigations claim the tigers were poisoned by poachers, they are all shell-shocked. For, it's the first time that tiger-killing of such magnitude has struck a national park that is supposed sets standards of quality management for other parks and sanctuaries of India. Corbett Park, touted as the best in Asia, was incidentally the launching pad for Project Tiger 25 years ago.

Chief Warden Singh told *The Indian Express* to-day that after conducting the post-mortem, they have sent the viscera of the two tigers to the forensic laboratory at Agra's veterinary college. "There was no bullet wound or any other external injury on the bodies. The tigers have obviously been poisoned. But only a detailed analyses of the viscera can tell us about the poison used", he said.

The first tiger was found dead on the Bijrani-Amdanda road passing through the reserve. Following the discovery, the national park's field director R.C. Gautam has ordered intensive combing of the adjoining areas. Two days later (on December 7), the forest staff stumbled upon across another dead tiger. The third dead tiger, sources said, was found on December 10.

The same technique was used in killing the tigers. They all died after consuming meat laced with poison- a technique common all over India but tried for the first time in Corbett Park. This is what is giving the UP forest officials sleepless nights.

Singh admits that the park's "intelligence system"- aimed at pre-empting any move by the poachers- had weakened considerably in the recent years. In the case of Corbett Park, the system entailed developing "contacts" with the villagers residing in the buffer zones surrounding the park and getting feed-back on the poachers' movement.

Singh does not rule out the possibility of some of Corbett Park's lower staff being in league with the poachers. "After all, we are from the same gene pool", he says. But he laments that "the killings in the park shows that even our first-rate management techniques are not enough to tackle the crime".

At times, agitated villagers poison a tiger after it attacks their cattle. But in this case, it is pointed out, no cattle-killing report had reached the forest staff. "That makes it an instance of poaching", says Singh.

The poachers- most of them based in Delhi and other metropolitan cities- rope in locals to carry out the killings. The modus operandi, also used in killing the Corbett tigers, is simple but deadly: place the poisoned meat in the jungle, wait for the feline to eat it and die and then collect the sought-after carcass.

Not a single part of its body remains unsold for long; the skin alone bags lakhs of rupees in the international market. As of now, tiger penis soup is said to be a delicacy in Taiwan.

Feathered dino

I.E.J.M. 98,

NEWYORK : Scientists say dinosaur fossils discovered in China with feather-like features suggest the creature was warm-blooded, a theory that could heighten the debate over the fundamental nature of dinosaurs. Researchers have long argued whether dinosaurs were warm or cold-blooded. The new study also touches on the debate over why feathers arose. The Chinese fossil discovery made headlines last year because it appeared to show the creature had primitive feathers. Some scientists said it confirmed the accepted notion that birds evolved from dinosaurs. Other objected, saying it's not clear whether the fossils really show anything related to feathers. The debate continues.

(From agency reports)

राजाजी नेशनल पार्क में 3 हाथी मरे

दैनिक भास्कर,

दिनांक; 5-1-98

हरिद्वार, 4 जनवरी (वार्ता)। राजाजी नेशनल पार्क सीमा के अन्तर्गत 3 हाथी लगातार पिछले तीन दिनों में मरे हैं। वन विभाग के सूत्रों के अनुसार, पार्क क्षेत्र के जंगल में एक नर, एक मादा तथा एक शिशु हाथी मरे हुए मिले।

इनमें से एक हाथी हरिद्वार रेंज में मरा पड़ा था तथा दो चिल्ला रेंज क्षेत्र में। हरिद्वार रेंज में मृत पड़े हाथी का पोस्टमार्टम पशु चिकित्साधिकारी डॉ. नरेंद्र पाल सिंह ने किया। ज्ञात हो कि गत दो वर्षों में इस पार्क क्षेत्र में अनेक हाथी मर चुके हैं। पार्क के अधिकारियों का कहना है कि यहां हाथियों के इलाज के लिए अलग से कोई व्यवस्था नहीं है।

प्रकृतिगत उपेक्षा तथा मानवीय छेड़छाड़ जैसी बढ़ती समस्या के कारण अनेक हाथी पागल हो गए तथा कुछ ने कई लोगों को मार डाला।

सरिस्का अभयारण्य में एक और पैंथर की अकाल मौत

दैनिक भास्कर, दिनांक 7-1-98

भास्कर समाचार सेवा

अलवर, 6 जनवरी। सरिस्का अभयारण्य में कुशालगढ़ चौकी के पास कार की टक्कर से एक तीन वर्षीय पैंथर की दर्दनाक मौत हो गयी। इस स्थान पर गत पांच सितम्बर को भी वाहन की चपेट में आने से पैंथर मारा गया था। पिछले आठ माह में वाहन की टक्कर से एक बाघिन सहित आठ बड़े वन्य जीव मारे जा चुके हैं।

अभयारण्य क्षेत्र में गत अप्रैल माह से आज तक एक बाघिन, दो पैंथर, चीतल, सांभर, जंगली सूअर सहित आठ बड़े वन्यजीवों को वाहन मार चुके हैं। बन्दर, खरगोश आदि छोटे वन्यजीवों का वाहन दुर्घटना में मरना तो आम बात है। अभयारण्य निदेशक तेजवीर सिंह ने बताया कि आज शाम कुशालगढ़ चौकी के समीप सड़क पार करते हृष्ट-पुष्ट पैंथर को एम्बेसेडर कार टक्कर मार कर भाग निकली जिसे टक्कर मारते एक स्कूटर सवार ने देख कुशालगढ़ के पास ग्रामसेवक को इसकी सूचना दी। वह कार वहां रुकी खड़ी थी। ग्रामीणों की चर्चा सुनकर कार वापस गई, उस समय तक पैंथर तड़प रहा था, लेकिन ग्रामीणों की भीड़ देख कार में सवार लोग भाग निकले। थोड़ी देर बाद सूचना पाते ही वहां अभयारण्य निदेशक दल-बल सहित मौके पर पहुंचे, लेकिन तब तक पैंथर की सांसें थम गईं। निदेशक सिंह ने बताया कि कार में सवार लोग कार लेकर भागे तो ग्रामीणों ने नम्बर नोट कर लिये। सिंह ने बताया कि जिला पुलिस कप्तान दलपत सिंह दिनकर द्वारा नाकेबन्दी कराने से कार को भागते हुए पकड़ लिया गया। वर्ष 98 के शुरुआत में ही पैंथर की मौत से अभयारण्य कर्मी दुख में डूब गए। निदेशक सिंह बताते हैं कि शिकारियों का भय हो तो जूझ भी लें लेकिन वाहन दुर्घटनाओं को कैसे रोकें। गत अप्रैल से अब तक 8 बड़े वन्यजीव काल का ग्रास बन गए जिनमें एक बाघिन व दो पैंथर की दुखद मौत से अभयारण्य के उद्देश्यों को गहरा आघात पहुंचा है।

WILDLIFE PRESERVATION SOCIETY OF INDIA, DEHRADUN

Balance Sheet as at 31st March, 1997

GENERAL FUND

Opening Balance	1,66,805.01	
Add : Surplus	21,109.07	1,87,914.08

BUILDING FUND

(as per last balance sheet)	7,860.48
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PRIZE FUND

(as per last balance sheet)	7,000.00
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FIXED ASSETS

(as per The Schedule)	21,156.95
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INVESTMENTS

U.T.I.	1,01,000.00	
P.N.B. FDR's	25,000.00	
Prize Fund	7,000.00	1,33,000.00

SECURITY DEPOSITS

Electricity	40.00	
Water	20.00	60.00

ADVANCE TO PRADEEP MISRA

(as per last balance sheet)	19,400.00	
P.N.B. S/B-A/C		29,157.61

2,02,774.56

2,02,774.56

(PRESIDENT)

(SECRETARY)

(TREASURER)

AUDITORS' REPORT

We have examined the Balance Sheet of Wild Life Preservation Society of India, Dehradun as on 31.3.1997 and also the Income & Expenditure Account for the year ended on that date and report that we have obtained account the information and explanation which were necessary for the purpose of our audit and that balance sheet gives a true and fair view of the state of affairs of the Society as on 31.3.1997 and Income & Expenditure account gives true and fair view of 'Surplus' for the year ended that date.

WILDLIFE PRESERVATION SOCIETY OF INDIA, DEHRADUN

Income & Expenditure Account for the year ending 31st March, 1997

3

Salary	6,690.00	Subscription		
Printing & Stationery	22,676.60	Patronship	10,000.00	
Office Expenses	1,033.85	Life Membership	10,000.00	
Postage	2,126.50	Annual Membership	7,077.00	
Telephone Expenses	1,549.00	Institutional & Affiliated	7,700.00	
Electricity	783.20	Students Membership	150.00	34,927.00
House and Water Tax	382.50			
Films, Books and Maps	333.00	Interest Received		
Conveyance allowance	94.00	On Saving Bank	336.00	
Bank Charges	102.00	On F.D.R.	8,332.00	
Miscellaneous Expenses	800.00	On U.T.I.	13,536.86	22,204.86
Legal Expenses	380.00			
Audit Fees	750.00			
Depreciation	848.14			
Surplus		Donations		50.00
(Excess of Income over expenditure)	21,109.07	Miscellaneous Receipts		2,476.00
	<u>59,657.86</u>			<u>59,657.86</u>

SCHEDULE OF FIXED ASSETS

Particulars	Balance as on 1.4.96	Total	Rate	Depreciation	Balance as on 31.3.97
Building	18,172.01	18,172.01	25%	454.31	17,717.70
Library Books	70.03	70.03	25%	17.53	52.50
Furniture & Fixtures	770.55	770.55	10%	77.05	698.50
Typewriters	2,992.50	2,992.50	10%	299.25	2,693.25
	<u>22,005.09</u>	<u>22,005.09</u>		<u>848.14</u>	<u>21,156.95</u>

Wildlife Preservation Society of India

1. The aims and objects of the Society are as follows:-

- (a) To promote interest and impart knowledge regarding the preservation and conservation of all forms of wildlife, particularly among the youth of the country.
- (b) To cooperate with the Govt. of India and State Governments and with other Societies and Institutions having similar aims and objects in working for the interests of wildlife.
- (c) To assist in enforcing and actively supporting the Forests Acts, Wild Birds and animals Protection Acts and Rules etc. of State Governments and the Indian Arms Act and Rules in so far as they pertain to wildlife and to bring to the notice of the authorities any infringement of the same and to assist in the detention and prosecution of offenders in respect of such laws.
- (d) To advise and help the Govt. and wildlife administrators in the formation, maintenance and protection of Sanctuaries and National Parks, preservation of wildlife in general and endangered species of India in particular and in the introduction of exotic species into the country, rehabilitation of endangered species etc. and in the formulation and amendments of rules and acts, so as to conserve and increase wildlife stocks.
- (e) To raise funds for carrying out the above aims and objects and to found and maintain museums, reading rooms and libraries of natural history in order to disseminate knowledge regarding wildlife.
- (f) To carry out publicity and propaganda for the preservation of wildlife in India by means of monographs, journals, films, filmstrips and other feasible methods.
- (g) To assist members of the Society in obtaining facilities for viewing and photographing wildlife in India.
- (h) To conduct research into the problems of Wildlife management in India and in pursuance of this to initiate, encourage and where possible assist in the projects for the study of threatened species and related objects and to provide reference and research facilities for such work.
- (i) To carry on such other activities which will serve the above subjects.

2. What membership of Wildlife Preservation Society of India will entitle you to?

- (1) You will become an active member of the growing group of Wildlife enthusiasts, who enjoy working for and spreading the knowledge of how to conserve India's heritage of wildlife for posterity.
- (2) You will be entitled to the full use of the library of the Wildlife Preservation Society and of its reading room.
- (3) You will receive a membership certificate.
- (4) You will receive a personal identification and Membership Card.
- (5) You will be entitled to buy all publications of the Society at a concessional rate.
- (6) You will be entitled to buy at concessional rates the Societies Greeting Cards, Calendars, Tie, Lapel badges and the Balance of Nature Game (specially Published in colour for its educative and recreational values.)
- (7) You will be supplied "Cheetal", the quarterly journal of the society free.

3. For membership particulars write to Honorary Secretary, Wildlife Preservation Society of India, 7 Astley Hall, Dehra Dun.

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Edited by N.D. Baachkhети, I.S. Negi, Dr. S.K. Sangal, and N.K. Jain. Published by the Honorary Secretary for the Wildlife Preservation Society of India, 7, Astley Hall, Dehra Dun and Printed by M/s Shiva Offset Press, Dehra Dun.